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THE YOUNG FARMER AT COLLEGE



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THEY FLASHED AWAY

The Young Farmer at College

BY

W. A. FREEHOFF



Illustrated by R. L. BOYER

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The Young Farmer at College

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Introduction

WORK and play in a nice proportion are mixed in the Short Courses of our American agricultural colleges. Clifford Davison found time for both. In the class room he met inspired teachers who not only taught him practical facts but spurred him on to make the most of his splendid opportunities. In his contact with the student body he met not only other "Short Horns" but regular university men as well, and from these, too, he learned many things not found in books. Our great universities in which "high brow" and "agric" are mixed indiscriminately are melting pots and levelers, foundation stones of American democracy; and Clifford Davison took back with him to the farm new knowledge, new outlooks, and new dreams.

When we consider that Clifford was a poor orphan boy, literally thrown upon his own resources by the death of his Uncle Barney Davison, with a run-down farm to add to his

troubles rather than to relieve them, he has come up a long step at the end of this volume. Clifford and Bill Jessup, as those who have read "The Young Farmer" know, accepted the challenge of the old Davison farm, and are now in a fair way to subdue it. By mixing common sense, practical knowledge, and courage of a high degree, the two friends,—the boy and the man,—made themselves a factor in their community.

How they fared on the farm when they began to work it in real earnest will be disclosed in the third book of the series, "The Young Farmer at Work."

The author wishes to acknowledge the valuable assistance of Mr. F. B. Swingle in the planning of the story, and the actual writing of this book.

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The Young Farmer at College

The Young Farmer at College

CHAPTER I

THE GOLDEN GLOW OF CORN

"Goin' after that prize corn again to-day, Cliff?" remarked Bill Jessup.

Clifford Davison felt gingerly of the sharp-bladed corn knife he had just whetted.

"Well, I guess! This hot weather has ripened the corn in great shape!"

Bill Jessup laughed indulgently.

"I've never seen a youngster put as much work on anything as you did in that acre of corn this summer. If work will win that prize you deserve the blue ribbon twice over."

"If work can win that prize, I intend to get it," was the emphatic rejoinder.

And flashing his shining blade in the sun, Clifford went whistling down the lane,

while Bill Jessup started his own team for the plow.

The State College of Agriculture was offering a prize of one hundred dollars to the boy under eighteen years who raised the most corn on one measured acre. The only condition was that the competitor do all the work himself.

Clifford Davison had decided to try. The winter before his county had sent him down to the Agricultural College as one of the corn-judging team, and he had won the prize for individual merit in judging, although the team itself won only second place. But this success had been a great encouragement.

Clifford Davison was an orphan who had rented his uncle's farm upon the death of the latter. His Uncle Barney had not been a very good farmer, and he had had very little sympathy for the things Clifford learned at school, regarding all book farming as "no account." Uncle Barney left Clifford only a few dollars with which to continue farming, but, nothing daunted, Clifford surprised his guardian, a neighbor named Bolton, by deciding to try the farm at least another year.

Clifford felt that there was no better occupation on earth than that of farmer.

For a few months he farmed alone as best he could; but one winter day he befriended a tramp, Bill Jessup. He asked Bill to stay with him for a year, and conduct the farm on shares. As Bill Jessup had no other home he readily agreed to do so, glad of the opportunity to forget his former useless life. The two soon became fast friends, although it was a long time before the neighbors ceased to be afraid of Bill.

In those early days when Clifford had to fight his way into the good graces and confidence of the neighborhood, Nettie Bolton, the daughter of his guardian, had been one of his firmest friends. She was sprightly and sensible, just the kind of girl who knew when to be sympathetic and encouraging, and when to be silent.

Even in this, his first year, Clifford was doing better than his Uncle Barney had ever done, simply because he planned his work out carefully and made every step count. He had cut and harvested about twenty tons of hay and had thirty acres in corn, which

promised to yield about a thousand bushels, a better crop than the old farm had seen in a long time.

Then there was this prize acre, his most ambitious attempt of all. When he had been studying for the corn-judging team the year before he had learned much about scientific corn culture. He felt that with favorable weather he might have a chance to win.

He knew that good seed corn was half the battle; so instead of picking his seed from the crib, as was the custom in the neighborhood, he had strained his slender resources by paying four dollars for a bushel of hand picked corn that had been fire dried and kept dry all winter.

By sprouting a few of the kernels from each ear between wet blotters he chose for seed only the best ears, and thus made sure that every grain would grow. For if any considerable quantity of the seed failed to come up the yield might easily be cut several bushels per acre.

There was no field on his rather run-down farm which suited him exactly, but just back of the barn was a small patch of

deep, black soil that had been in pasture for years.

Clifford had spent most of one day in covering that patch with well rotted barn-yard manure.

His light team had trouble in pulling the plow through the sod, and more than once Clifford was within an ace of getting his ribs smashed as a root or stone jerked the plow handles upward. But at last he had the satisfaction of seeing the final furrow turned.

Then he harrowed and dragged the ground until the big bunches of sod were all cut to pieces and the soil was almost as fine as dust. That done, he took the front half of an old bob sleigh and "marked" the field, running the sleigh the long way and then the cross way so as to cut it into little squares. At each place where the rows crossed, or cut each other, he placed three to four kernels of corn.

Before the corn had time to sprout, Clifford had gone over the field twice with a drag so as to kill the millions of tiny weed plants that had started to crowd the slower growing corn. He had even dragged a harrow over the field once when the corn was out of the

ground an inch. By the time that the corn plants were two inches high most of the weed seeds had started to grow, and had been killed. Clifford then hoed every hill of corn by hand so as to kill every weed he possibly could.

This thorough cultivation served two purposes: the first was to form a dust mulch, that is, it made the earth on top of the ground fine and dust-like, which would help to keep the water in the ground by preventing rapid evaporation; the second was to kill still more weed seeds, and this also helped give the corn plenty of water, for weeds do more harm by drying out the ground than in any other way.

There was good reason why it was a splendid field of corn.

On this particular morning on which the story opens, Clifford swung his keen knife lightly about his head as he approached the field. A little distance off he stopped and gazed at it almost reverently, even forgetting to keep up his whistling. That acre meant much to him; it signified aching muscles and a hearty appetite and sound sleep; it signified

the satisfaction of a wholesome task well performed. Whether he could win the prize or not, he knew that his acre was already the pride and envy of the neighborhood, and that was something for the orphaned nephew of shiftless Barney Davison !

As Clifford surveyed the field in silence, the majesty and grandeur of a corn-field in September filled him with a sense of awe.

Row upon row of dark green stalks with gently waving tassels like the plumes of the knights of old ; the soft, dry rustling of the wind as it jostled the long, broad bladed leaves ; the pendulous ears as they careened toward the ground, bulgy and fat with the golden richness beneath the green husks and red strands of straggly "silk" ; all this Clifford sensed. He felt vaguely that that field of corn was the best possible answer to the question why he wanted to be a farmer.

But Clifford did not spend much time in day-dreaming. Adjusting a big red handkerchief about his neck so as to afford better protection against the mosquitoes that are inevitable in a corn-field in September, he stripped back the husks of several ears to

make sure that all were fully ripened. Then he bent the stalks of two hills toward each other and twisted the tassels together so as to form a stand or "tree" against which to place the cut stalks to form a shock.

Swish! Swish! the sharp, staccato strokes followed the swift flashes of the shining blade, and Clifford had begun the harvesting of his corn. As he worked he was pleased to see how few weeds had resisted his strenuous campaign of cultivation, and made mental note that here was a fine place to try later what alfalfa could do.

Nobody in the neighborhood had had much luck with this queen of forage plants, and Clifford was ambitious to put into practice a plan that had come to mind after reading a government bulletin. To succeed with such a difficult crop would indeed be a feather in his cap.

That noon Mr. Bolton called upon Clifford and inspected the field. Mr. Bolton had been appointed by the college as chairman of the committee which was to make sure that Clifford had complied with all the rules of the contest. He complimented Clifford upon the

fine appearance of the corn, and soon took his leave.

After the corn was all cut, Clifford left it standing in the shocks until nearly the middle of October. Then he husked it. This process consisted of pulling down a shock, getting on his knees in front of the fallen stalks, and stripping the ears bare of husks and silk. Then by a quick snap of the wrists the ear was wrenched from the stalk and thrown into a large basket.

Mr. Bolton and the other two members of the committee supervised the process of husking closely, for while they trusted fully in Clifford's honesty, they felt it was their duty to make sure that the rules of the committee were being followed absolutely. The committee had also measured out exactly one acre and had requested Clifford not to husk the few shocks left over until after the rest had been measured or weighed.

It was nearly the middle of October before Clifford had husked the last ear, for interruptions had been many. Then he called Mr. Bolton and the rest of the committee to come and measure the corn.

Clifford and Bill Jessup regarded each other anxiously while the committee worked.

"Think it will go seventy-five?" inquired Bill.

"It will have to be better than that to have a chance at the prize; I rather think it will go near a hundred, as there are 112 big basket-fuls in those two heaps."

Clifford's surmise was correct.

Mr. Bolton reported ninety-eight and a quarter bushels.

"I want to congratulate you, Clifford," he exclaimed heartily. "It isn't everybody can raise corn like that on our type of soil and in our climate. Your Uncle Barney would have been proud of you."

Clifford glowed with pleasure.

Then Mr. Bolton sprang the big surprise.

"I have an announcement to make," he declared, turning from Clifford to the rest of the committee, and smiling out of the corner of his eye.

"This very morning I received a letter from the secretary of the prize contest, in which he said he was waiting for our report, all the others being in."

Clifford thought his heart would stop beating before Mr. Bolton finished speaking.

"The boys all made most excellent records, and the contest was very close. The highest number of bushels mentioned in the letter was ——"

Here he paused exasperatingly, after the usual manner of a judge announcing a decision at a debate or speaking contest, and smiled with secret amusement at Clifford's tense face.

"Ninety-seven and three-tenths bushels. In other words, Clifford Davison, I can now congratulate you as the winner of the state prize and entitled to the one hundred dollar award!"

Clifford and Bill were shaking hands before Mr. Bolton had finished speaking.

"Good for you, Cliff!" whispered Bill. It would have been hard to tell which of the two was the more elated.

Clifford had to shake hands all around, much to his embarrassment. Finally, all but Mr. Bolton left.

"What are you going to do with that hundred, Clifford?" he inquired.

"I want to go to the University and attend the Short Course this winter. School starts next month."

"Very good. I am sure Bill here will be able to do the work while you are gone. But will that be money enough?"

"I'll try and earn part of my expenses while at school."

"If things go wrong with you, don't hesitate to call on me," offered Mr. Bolton, well pleased with Clifford.

"Thank you, but I shall try to manage."

"What shall we do to celebrate?" inquired Clifford of Bill, after Mr. Bolton had left.

Bill considered a moment.

"I always was fond of chicken—fried crisp and brown. Now we might take one of those extra roosters ——"

"And have a feast to-morrow—right-O!" finished Clifford.

Just as they were completing chores that night, and while Bill was looking up the doomed rooster, who had disappeared as if suspecting what cruel fate had in store for him, there was a tremendous clatter up the road.

A girl on horseback dashed into the barnyard.

"Why, Nettie!" and Clifford looked as pleased as could be.

"Congratulations, Clifford!" she beamed. "Dad just told me the good news, and I simply had to see you right away. Isn't it splendid!"

Nettie Bolton certainly was enthusiastic.

"Thank you!" The warmth of her pleasure embarrassed him. Praise from Nettie was praise indeed.

"And now you can go on to college," she continued, without dismounting. "I'm so glad!"

"So'm I!" assented Clifford, not knowing what else to say.

Just then Bill Jessup appeared with the captive rooster in one hand, and brandishing the axe in the other.

"Ugh!" exclaimed the tender-hearted Nettie. "I must be going, or mother will have a fit!"

And she urged her horse toward the road, disappearing with as much commotion as on her arrival.

CHAPTER II

GETTING ESTABLISHED

THREE weeks later, swinging a battered suit case, not too heavily laden, Clifford stepped off the train at Jefferson, the lively little university town that was to be his home for the next few weeks.

In the depot he bumped squarely into Peter Todd struggling under the weight of two suit cases.

"Why, hello, Pete!"

"Hello, Cliff!"

Both boys were overjoyed at the meeting, and shook hands heartily.

Peter Todd and Clifford had been on the corn-judging team the year before, and had become greatly attached to each other.

"Wasn't it great, your winning that contest!" began Peter, taking up his suit cases again.

Clifford grunted rather testily, as he disliked to show his elation.

"Got any place to stay?" he inquired, to change the subject.

"Haven't the slightest idea where I am going, but I'm on my way," returned the breezy Peter. "What are your plans?"

"Go straight to Prof Creighton's, and hear what he's got to suggest!"

Professor Creighton was the instructor who had conducted the corn-judging contest the year before, and he had taken a great liking to Clifford and Peter.

"I'm on!"

Out in the street Peter Todd set down his suit cases with emphasis.

"It's fifteen blocks to the University, isn't it?" he inquired.

"Something like that, as close as I can remember."

"I've got a dime that says we'll ride," decided Peter.

They crowded into a passing street car with a dozen other boys who were evidently bound on the same errand. They stopped at the Agronomy Building after a picturesque ride

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through the entire campus, and were fortunate enough to find Professor Creighton in his office.

"I'm glad you managed to come down for the winter, both of you," he declared, after he had seated them. "Are you settled yet?"

"No. That is just what we came down to see you about," explained Peter.

"And I should like to find work." This from Clifford.

Professor Creighton thought a moment.

"I know just exactly the place for you fellows. Mrs. Miggles, a widow who lives about a block down the street, has two rooms she lets very reasonably. They are just right for three boys, and cost a dollar and a half a person. It will be easy enough to find somebody to take the rooms with you. Jobs, however, are not so easy to get, as many students are looking for a chance to earn a little spending money, and the four year men naturally get in on the ground floor for all the really desirable openings.—Wait a minute. I believe I heard Professor Pumphrey say he needs a boy in the cattle barn."

Professor Creighton had called central while

he was speaking. He had Professor Pumphrey on the line at once.

"I think he can place you," declared Professor Creighton, hanging up the receiver. "I will take you over, and you may talk to him yourself. But perhaps you would like to have a look at those rooms first."

Professor Creighton had been putting his desk in order as he talked. Now he rose, and took his hat from behind the door.

They found Mrs. Miggles a very motherly woman. Her rooms were neat and clean, and seemed well worth the price. Peter and Clifford had little difficulty in deciding.

"We'll take them," they declared.

"And do you wish me to look for a third roomer?" asked Mrs. Miggles.

"We'll try first," decided Clifford.

"If I find any one I'll send him to you," volunteered Professor Creighton.

The two youngsters put their suit cases under the table to indicate they had taken possession, and then followed their guide into the street again.

Professor Pumphrey was glad to see Clifford.

"I've heard a great deal about you from

Creighton," he explained. He lost no time in getting to the subject at hand.

"I do need a good man in the barn," he declared; "somebody who will be always on the job when he is supposed to be. I've had to fire two men already. The barn man, Bob Folsom, is a very efficient and businesslike man, and no shirkers last very long with him."

"What is the nature of the work?"

"Oh, you'll be needed principally to help during milking hours. We're testing out a milking machine, and perhaps you'll get a chance to try your hand at that. Folsom does not seem to be having very good luck with the machine, which I regret. If the mechanical milker were really perfected it would mean a tremendous advantage for the modern dairyman."

"I'll do my best," promised Clifford.

"Good. Report at the barn a little before five to-morrow, and I will introduce you to Folsom."

"You sure are in luck, Cliff!" exclaimed Peter as soon as they were well out of the office.

"It will require a lot of tact on Cliff's part,"

warned Professor Creighton. "I understand that Folsom is not the easiest man in the world to get along with. He isn't fond of students."

"I'm willing to do anything within reason," asserted Clifford.

Professor Creighton now excused himself.

"I have another appointment," he explained, looking at his watch. "I think I may trust you to your own devices now. Call upon me whenever you feel like it; I shall be glad to see you."

"What now?" inquired Peter.

"I think we are supposed to register and get our enrollment cards, and find out what books we must buy."

"Where do we register?"

"I think it is that big spotted building where the crowd is on the steps."

They went up to the building, which was known on the campus as Agricultural Hall, although nobody took the time to call it anything but "Ag Hall."

About one hundred Short Course men were crowded into the lobby, trying to register, or else engaged in visiting. The majority of

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them had brought their suit cases to the building, and were being directed to suitable rooms by a bright-eyed clerk at the registration counter. One student occasioned a great deal of mirth because he had expected to room at the Hall itself, supposing it to be a new sort of dormitory.

Clifford and Peter looked about sharply to see whom they knew, but all the faces were strange. So they got into line at the counter. In fifteen minutes they had each received a little card which he was told to take to the bursar of the University and pay his fees. To their surprise, they were given numbers, Clifford being 133 and Peter 134.

"What are these for?" inquired Clifford of the clerk.

"The classes here are so large that we don't try to remember you by name. In the class room you are known by number only, and you sign all papers by number instead of by name."

"Just like a bunch of jail-birds," remarked Peter flippantly, whereat the clerk laughed. She was not yet old enough in the service to find the "Short Horns" a bore.

As the two turned away Clifford overheard one of the boys asking about rooms.

"I'm all alone here, and I should like to room with some nice fellows for company's sake."

The speaker was a frail but pleasant and refined looking lad.

Clifford and Peter exchanged a quick glance.

"Let's invite him with us," suggested Peter impulsively.

Without waiting for the more deliberate Clifford's answer he interrupted the stranger.

"We're looking for another fellow to room with us. There are two of us, and we should like a third."

The stranger looked Peter and Clifford over rather searchingly, if timidly; but his shy appraisal seemed satisfactory.

"I should like to ever so much!" he decided. "What will my share cost?"

"Dollar and a half a week, and we're only three blocks from here!"

"That is fine!"

The three came to a quick understanding, and decided to go to their rooms at once.

The new man's name was Willis Winthrop,

and he hailed from Churchill, at the extreme northern part of the state. He had never lived on a farm, but his father owned one, and he was trying to prepare himself to take personal charge.

Under his new-found friends' eager questioning he confessed that his father did not want him to go to the Short Course, but had planned on taking him into his hardware business. So he was not being given any too much money for his school expenses.

Willis, in spite of his gentle demeanor, warmed up marvelously when talking about the farm.

"I visited my uncle this summer," he explained, "and he has got just the most marvelous farm. He raises pure bred Guernsey cows and has everything so nice, ever so much nicer than my father in the city. He has a beautiful home, with electric lights, and running water, and he can be indoors most of the time!"

The sight of the bare walls and unopened suit cases soon suggested what they should do next. "Getting settled" with them was a simple matter, however. None of them had

brought much besides clothes and a few photographs: pennants, banners, and posters were unknown to Clifford and Peter, and Willis had left his "collection" at home until such time when he would be able to send for some of his "things."

He had brought quite a quantity of books, however, with titles the others had never seen before.

"I'm afraid I'm somewhat of a bookworm," he apologized.

By the time they had their room in orderly disorder, they discovered that it was almost six o'clock. All three were ravenously hungry.

"We forgot to ask Creighton about a good hash house," reminded the irreverent Peter.

They decided to look up one immediately.

A block down the street they came upon what is known among the students as a "dog wagon." This consisted of a large box, nicely roofed over, and mounted on wheels, so that it could be moved from place to place. About a dozen hungry students could find room in it to devour a scanty meal of beans, pie, and doughnuts.

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The hungry trio decided it looked too dirty, so passed on.

"My mother told me not to eat at lunch counters, but to find a steady boarding place," volunteered Willis.

"That suits me best, also," agreed Clifford, while Peter chimed in with the same sentiment.

They walked about eight blocks before they found anything that looked promising. There were restaurants and lunch counters galore, but they were either crowded or dirty, and the three boys were too tired to jostle in line with the regular students.

Finally they came to a house placed high on the street. On the door was painted, in bold red paint, the picture of a cat in fighting attitude, and the sign "Ye Cardinal Cat" stared at them in brilliant red letters.

A sign "Room and board" was conspicuously displayed at a lower window.

"I'm getting too hungry to walk much further," declared Peter. "Let's try the Red Cat."

The front door opened into a little hallway, and here a stout young man of about

twenty sat before a tiny desk. He looked up indolently as the three entered rather bashfully.

"Hello!" he greeted, but did not rise.

"Can we get board here?" inquired Peter. The fat young man's face lighted up.

"Sure!" he declared. "The best board in town. We've got a few places left."

"How much a week?" This from the practical Clifford.

"Four and a half!"

This was higher than they had expected, but in the next room the sound of jolly laughter could be heard, while the tantalizing smell of well-browned beef came floating into the hallway. They surrendered.

The fat young man then introduced himself as Lightfoot, whereat Clifford smiled broadly, a smile that was not lost by the observant Lightfoot.

"The fellows here call me Lighty because I'm so thin," he explained. And he led them into the dining-room.

There were eight tables, accommodating eight persons each. Lightfoot paused for a second at the door, picked out a table, and then

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plunged them into the center of the room, where a table had five vacant seats.

Lightfoot introduced them to the two already at the table, and then left them to their own devices.

Their new acquaintances plainly were four-year men. One of them might have been twenty-five,—an athletic, sprightly chap of pleasing appearance. His name was “Bud” Speers. The other boy was somewhat larger, but with a face beaming with good humor.

Bud looked the newcomers over sharply for a second and then began to pay them his respects.

“Short Horns?”

They nodded, whereat he arose with a grand air.

“Let me welcome you to our city, oh ye sons of toil!”

The other four began to laugh, while the three friends began to be decidedly uncomfortable.

Bud continued with a solemn countenance:

“Who is the backbone of this mighty commonwealth? Why, the farmer! Who is it that ——”

Bud was beginning to warm up to his theme, and already had drawn the attention of the whole grinning room. Peter and Willis were abashed at this onslaught, but Clifford was angry, though he knew better than to reveal his anger. Rising slowly, he faced Bud grimly.

"In behalf of the backbone of the nation," began Clifford, amid the sudden silence that fell upon the room, "I wish to thank you for your kindly words of appreciation. But my fellow backbones are hungry and not in the mood for long after-dinner speeches until *after* they have stowed away their pie. Will you do us the favor?"

Bud's face was a study. It was very evident that this interruption astonished him, and he did not know quite what to make of it. But his face cleared in a minute.

"Shake," he offered to Clifford. "I have an idea that we shall get along very well at this table."

The ice thus broken, the three soon felt very much at home in the lair of Ye Cardinal Cat.

CHAPTER III

BUSY DAYS

CLIFFORD soon discovered that the next fourteen weeks would be busy ones for him, indeed. With such a short time at their disposal, the instructors were crowding the work in order to accomplish as much as possible in the limited time allotted.

Clifford found classes very interesting. The college professors were very practical men, and they knew how to teach practical farm science in such a way that the students, most of whom had only a common school education, could easily grasp the principles involved. The work in connection with the judging, feeding, and caring for live stock Clifford found very much to his liking. There is a humanizing something that appeals to most boys in studying living creatures like the horse, the cow, or the hog, and Clifford was no exception to this rule. He spent much time prowling about

the great stock barns of the University, getting acquainted with the animals and their attendants, and picking up all the information he could. The work in seed study under Professor Creighton was equally interesting, and Clifford never tired of going to the great seed laboratories and greenhouses and cramming his mind full of the lore of plants.

He found that his work for Professor Pumphrey in the dairy barn was going to take a great deal of time. As Professor Pumphrey had hinted, the mechanical milker did not work very well, so a great deal of extra work was thrown upon Folsom and Clifford.

Clifford did not devote his whole time to work, however. He had enough red blood in him to delight in athletic sports of all kinds. The University regents provided a special gymnasium for the use of the Short Course students and had selected a competent instructor to look after the physical welfare of the students. This man was a jolly, red-headed personage known simply as Grant.

Grant coached the basket-ball team as well as supervised the gymnastic drills. The crowning event of the Short Course year

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was a basket-ball game between the Short Course students and their ancient enemy and rival, the Commercial College. Last year the Commercials had won a decisive victory; this year Coach Grant was determined to retrieve himself.

Peter and Clifford, on their first appearance at the gymnasium, saw the sign :

*Candidates for the Basket-ball Team
Report Here at 7 : 30 To-night*

"Guess I'll try my luck," decided Clifford, and Peter added the inelegant "Me too!" They could not persuade Willis to come with them, however.

"I'm not used to that sort of thing," he insisted. "I should only make a fool of myself. Basket-ball is not for my kind. I'd rather stick to straight gym work."

They found fifteen candidates on the gymnasium floor in response to that first call. Coach Grant gave the crew an appraising glance, and grunted.

"Some of you fellows are built as if you might be able to play this game. I hope you won't disappoint me."

Only two of the candidates were in regulation basket-ball uniform. The others wore the Short Course gymnasium suits. These, while suitable for practice work, would have to be replaced later by the successful candidates. The two men in uniform seemed entirely at ease on the floor. They were "monkeying" with a basket-ball, dribbling, throwing baskets, and sporting around generally with a skill and ease that amazed Clifford and Peter, who had never even seen a basket-ball game. Clifford was sure that he never could acquire even half this dexterity in a few weeks.

Coach Grant called the men around him for a short conference.

"We have only two men left of last year's team, and the Commercials have four of last year's champions. You know what that means. Bradley and Murray, I shall expect you, as experienced players, to help me all you can to whip the green men into shape. If any of you should, by some lucky chance, happen to be experienced players I should bless the stars as kind."

The coach then gave them a short talk on the principles of the game, finally allowing a

short game in which everybody was allotted a part.

Clifford did not make much of an impression, he thought, this first night, for he felt all feet and thumbs, which were continually doing queer stunts. He watched carefully, however, and got into the swing of the game very shortly. After he had bumped into some of the heavier fellows several times one fact was brought home to him: that in basket-ball weight counts for a great deal. His weight was 145 pounds, while six or seven of the others weighed 175 to 190 pounds. But he was pretty fast on his feet and managed to keep out of the way of the rougher ones. He even made a basket from the middle of the field; it was a chance shot and purely an accident, but it brought a smile from the coach.

"If you were heavier I'd have great hopes for you," he praised.

When Peter and Clifford crawled into bed that night their muscles were stiff and sore; and they slept the untroubled sleep of the just.

Clifford was not content with the mere class-room routine; his active imagination



IT WAS A CHANCE SHOT

suggested a new line of work. The alfalfa plant was one of special interest to him, so he determined to carry on some experiments to determine the best methods of raising this crop on his own farm. This would be counted as part of his work on "soils," and would be accepted for credit at grading time.

Alfalfa is considered the most valuable hay, forage, and pasture plant in America. It grows without much difficulty in the western states, but in the middle west, where Clifford lived, alfalfa presented many cultural difficulties. Farmers found the plant very hard to get started in the fields; either it wouldn't grow very well or else the many weeds would choke the young alfalfa plants to death.

He asked Professor Creighton the reason for this. The professor very gladly gave the information desired.

"There are four soil conditions essential to the growth of alfalfa. These are found almost perfectly in the west. The soil must be rich, not too wet, free from weeds, and must contain certain organisms or bacteria that help the alfalfa to secure plant food.

As you know, the west is quite dry, and many sections are irrigated. It is possible to have good drainage under these conditions; there is seldom any water standing in the ground, and yet there is enough moisture. You see, the alfalfa roots run down sometimes as much as twenty feet into the ground and are able to get every bit of water and plant food from the soil. These prairie lands are, of course, naturally very rich. But of as much importance as these is the fact that a sour soil will kill those tiny little half plant, half animal organisms that help the alfalfa plants."

"How can we tell whether the soil is sour or sweet?" asked Clifford.

"We take some litmus paper, which can be bought at any drug store for a few cents. If this blue litmus paper turns pink when placed against the soil, acid is present. Most wet soils are sour. Alfalfa plants which have grown in sweet soil develop large bunches or nodules on their roots. These nodules contain the much desired bacteria, which pulls a plant food element called nitrogen directly from the air and stores it in

the roots for the use of the plant. Oh, it is very wonderful. Now take this state, for example. You know how weed-infested many of our fields are, how wet the soil is. These two conditions are fatal to alfalfa."

"What must we do to correct this?"

"In order to make sour soil sweet it is necessary to put limestone, ground very fine, upon the land. Limestone sweetens sour soils. Where our fields are too wet we must tile-drain them so as to draw off the extra water more quickly. As to the weeds, they must be killed or checked by correct cultivating and thorough tillage."

Clifford was determined to find out to what extent the four factors described were present upon his own farm. With the exception of a marsh, all his land dried off very nicely after every rain and could be considered well drained. But so poorly farmed had the land been under Uncle Barney that it was considerably run down; it certainly could not be considered rich land. Of course, this could easily be remedied by hauling manure upon the land and using the right kind of crops. But right here Clifford had an idea which he

thought might prove valuable. He knew, from reading a government bulletin, that weeds grew best in a soil where barn-yard manure had been applied because manure contained nitrogen in large quantities, and nitrogen was a food much needed by all plants, including weeds. On the other hand alfalfa required the element phosphorus rather than nitrogen because it had the power of taking its nitrogen from the air.

Clifford reasoned that if he did not put any manure upon the land, but instead bought commercial fertilizers, which contained a great deal of phosphorus and no nitrogen, he would be able to keep back the weeds a little and hasten the growth of alfalfa until it would be large enough to take care of itself against any and all weeds.

So he wrote Bill Jessup asking him to send a box of soil actually taken from the field upon which he wished to try alfalfa. When it arrived he put this soil into half a dozen smaller boxes in the Soils Laboratory of the college. To one box he added manure only, to another he added limestone and manure, to a fourth phosphorus and ground limestone,

to the fifth box he added soil from an old alfalfa field only and to the sixth box he added this soil in addition to the manure, ground limestone, and phosphorus. A seventh box of soil was left just as it came from the field. All of them were seeded to alfalfa.

It took Clifford a week to get all his boxes ready and labeled and planted, but after that they gave very little trouble except to keep them watered and make notes regarding their weekly growth.

Clifford also thought seriously of entering the horse exhibiting contest, and trying for the stock-judging team. This latter was the greatest honor that could fall to a Short Course boy, an honor, by the way, that hardly ever was awarded to a first year student. Five boys constituted the so-called team, consisting of the boys who had ranked first in judging horses, dairy cows, beef cattle, swine, and sheep. No boy could enter in more than one department. This team was chosen toward the end of the Short Course year, during the great Live Stock Exposition held at the college every year. The retired dean of the college had offered five annual prizes

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for the members of the judging team, one prize for every class of live stock represented.

The horse exhibiting contest was a special feature, although not a very popular one among the students. Instead of judging the horses, as contestants for the judging team did, the boys themselves would be judged upon the skill with which they paraded their horses before the judge and the artistic manner in which they had groomed and fitted their horse.

Now, it may seem like a very easy matter to show a horse correctly in the judging ring, but it really is very difficult. Have you ever gone to a horse show? If so, you must have noticed how the attendants lead the horse before the judge, running it up and down the side of the ring to show its paces. Perhaps you also noticed how the attendants persisted in pulling the halter in such a way that the horse kept his head up in the air and was made to look very fine, indeed. It takes years of experience in the show ring to be a good exhibitor of any kind of live stock, so if Clifford expected to win the prize he would, indeed, have to apply himself.

Thus almost before he knew it, Clifford and his two roommates were completely engrossed with their school work and outside activities. But instead of chafing under his work, Clifford discovered that the more busy he kept himself the more he was able to do, for it required careful planning to find time for all of his tasks. This was the best possible training in efficiency, for if he had not studied how to study he would never have accomplished as much as he did.

CHAPTER IV

THE NEW MILKING MACHINE

THE next afternoon Clifford went down to the dairy barn with Professor Pumphrey to begin work there with the beautiful herd of pure bred Jerseys and the new milking machine which was being tried out. The regents were to decide, after a thorough trial, whether the college should recommend mechanical milkers to the farmers of the state. For this reason Professor Pumphrey was keenly interested in the experiment, and Clifford shared his enthusiasm for the new labor saver.

After being shown the room where he was always to change his clothes for a suit of clean barn regimentals, Clifford was introduced to Bob Folsom, the herdsman, who merely gave him a perfunctory nod in greeting, and passed on about his work.

"Don't mind Bob's ways," advised the pro-

fessor. "He is not so grumpy as he seems. He has had a lot of trouble from his student helpers in the past, and as a result he doesn't warm up to a fellow readily. I'm sure you'll get along splendidly with him."

With this sage advice, Professor Pumphrey left Clifford and went back to the college; but Clifford was not entirely at ease. For although not openly hostile, Bob Folsom kept Clifford at a distance, implying in his manner that his opinion of student helpers in general and Clifford in particular was not very high. Clifford rather suspected that there might be squalls ahead, and to one of his warm and friendly disposition this was a troublesome thought. However, he held himself properly respectful in speech and manner, hoping thereby to mollify the herdsman.

The milking machine was not used that night, and Clifford ventured to ask why.

"Well, if you must know, it's no good," growled Folsom. "If you farm dudes are too lazy to milk cows, why do you hang around the dairy barn for a job? The schoolroom is the best place to wear nice clean clothes," and Bob looked his disgust.

"I was told that the milker was to be tried out as a labor saver, not for me, but for one hundred and sixty thousand milkers in this state, and I was told to keep my clothes clean so as to make clean milk possible."

Clifford was a boy of spirit, and not always wise in the management of his tongue. His little rejoinder did not put him into any better grace with Folsom.

"You was told all right, then. The patent milker was tried out last week, and it tried out poor. These Jerseys don't get any more of that if I can help it. It hurts 'em, and that's enough for you to know. Now, if you know enough to milk a good cow as she ought to be milked, get busy in that end of the barn."

Clifford said no more, but "got busy," and soon proved that he did know how to milk a cow as she ought to be milked.

The reader must not suppose that Bob Folsom was incompetent, or even a "grouch." He was one of those old-fashioned men who are wonderfully practical and efficient in their way, but just a little prejudiced against new things they do not understand. Bob never

for a moment believed that a mechanical milker could be made practical, so he was loth to waste his own time, and ruin the cows too, through useless experiments. Clifford had a sort of self-reliant, know-it-all air about him at times that belied his real character, and thoroughly deceived Folsom, who supposed him merely another one of those incapable and "fresh" students by whom he was being constantly pestered. He did not know that what he mistook for uppishness in Clifford was merely unrestrained enthusiasm. Clifford had been brought up in a world of men, and could not always realize that he was not yet a man.

Clifford was troubled, and not at all satisfied with the herdsman's verdict as to the milking machine. He knew, too, that Professor Pumphrey believed in the machine and would be greatly disappointed in its failure. But Bob Folsom had been in charge of the dairy herd so long, with such a good record, that the regents had much confidence in his judgment. It was possible that Folsom might be right and Professor Pumphrey wrong.

The more he thought about the matter,

though, the more he was convinced that Bob was prejudiced, and that the milker was not being given a fair trial. A few quiet talks with the other boys more or less acquainted with the barn work strengthened this belief; but he was warned that Folsom was very strong with three regents, who took great pride in being credited with "good horse sense," "sound practical judgment," and other qualifications of that sort. They were proud to be called conservative. This had become such a hobby with them that all new ideas and plans were opposed by them just because they were new. The milker was one of these, and Folsom's stand made their position as regards the milker very strong.

"How are you getting along down at the barn?" Professor Pumphrey asked Clifford a week later. "How is the machine working?"

"We are not using it," replied Clifford shortly. He was burning to tell the professor about Folsom's high-handed methods, but he did not wish to be a telltale.

"Not using it? Why, what is the matter? Is the machine out of order?"

"I think not, but Folsom says it is no good."

"I must see him about that to-night. We certainly cannot condemn the machine until it has been given a real trial."

"The mechanical milker certainly is a wonderful invention," declared Clifford, to keep up the conversation.

"It is marvelous," and Professor Pumphrey began to wax enthusiastic. "For a century past scores of patient inventors have spent the best part of their lives working out the devices that are being used to-day to make up the so-called milking machines. Scores of patents have been filed, scores of men have spent all their money, and there have been dozens of absolute failures."

"Is this machine the best one on the market?"

"It is one of the best, and as good as any. The company claims to have many of them in use, and I hoped to be able to tell our farmers here next summer that there was at least one machine that could milk cows successfully."

"I wish that we could. Why, I dreamed the other night that I could see all over the country when the boys and their fathers and their grandfathers, and even the women, were

all milking away as fast as they could. It seemed as though there were millions of them, and none of them looked as though it was very enjoyable. Then, just as I was going to hold up a big picture of a milking machine for them to see, Bob Folsom came along and tore it out of my hands."

Professor Pumphrey laughed at the picture thus vividly brought before him.

"Then you woke, I suppose. Well, I have had a number of visions like that, and I do not call them idle dreams, either. You were right; there are millions of them; five millions of milkers who are tired of the same old grinding twice-a-day job that must be done so slowly and so carefully. I wish that you and I could hold up that picture you dreamed about, so that they all could see. But first it must be a genuine picture, true to life, for it would be criminal to conjure a vision of hope and have it dashed by the failure of the machine."

"Aren't we sure that the mechanical milker is all right?"

"Yes, and no, but principally yes. But we must and we intend to prove it here, for we

cannot give any advice having the authority of the college back of it without being absolutely sure. We cannot afford to be merely an advertising agent for a milking machine. There are companies that would pay us handsomely to recommend their machines, but we are not doing business that way."

"Why not have a man from the factory come here and run the test?"

"We did have the expert here, and he started Bob nicely, and when everything seemed to be going well, the regents decided that we would try it alone. The farmer can't afford to call the factory expert every time something is wrong, and if Bob with his experience can't run the machine how can you expect the average farmer to succeed? We have had the expert here three times now. But I don't believe that Bob is trying very hard to succeed. That is why I am so anxious about this trial."

That evening Professor Pumphrey asked Folsom why the milker had not been used that week. The herdsman was quite willing to explain. He could not tell what was the matter, but all the cows were uneasy and their

production records dropped so much that he did not dare keep on using the machine. Flora and Lucy, two of the best Jerseys in the herd, were the most nervous, and there was no doubt that the machine hurt them, and he, Folsom, thought too much of the herd that had been intrusted in his care to allow them to be hurt by anything which was called a milker, but which was not at all a good milker.

Folsom's argument sounded so plausible that the professor could say nothing. While he distrusted the man's mechanical ability, he knew him to be honest, and there was no doubt that he had shown good judgment in past years.

So the disappointed professor went back to his room. Before he left the barn, however, he spoke of Clifford.

"Does he do his work well?" he asked.

"Oh, as well as any of the young fellows who come down here to show me how to run the barn," laughed the herdsman. "He asks questions just to show that he knows enough to ask."

"Well, doesn't he milk well, and do his

work as it ought to be done? That is what I want to know."

"He can milk, if he wants to, but he is always hinting about the milking machine, and I don't want to hurt the cows with it, as I said."

Professor Pumphrey could not understand Folsom's dislike for Clifford, for he had always considered the latter a very capable young fellow; and his past record certainly was a good one.

"Here's a case of mutual misunderstanding that may lead to trouble," was his last thought as he left Folsom.

Clifford had never tired of studying the machine at every opportunity, and its mechanism of valves, vacuum, air pump, connections, tight pails, rubber suction pads, with the engine that furnished power to operate the suction pump, was the source of the keenest enjoyment to him. And he had studied the directions for operating it until he knew them almost word for word.

The evening after Professor Pumphrey's visit to the barn, the herdsman was carrying an armful of empty sacks to the feed room

below, when he tripped and fell headlong, landing in a heap at the bottom of the stone steps. Clifford and the other helper in the barn ran down to lift the insensible man to his feet, but there was no use. Bob Folsom was as limp and helpless as a child.

It was but two or three minutes before Dr. Winter came in response to the hurry up call. When Dr. Winter arrived he declared that while Bob might easily have broken his neck, he had really broken nothing, and would probably be all right again in a few days. Folsom was ordered taken home and put to bed to recover from the shock of the fall.

When they were gone, Clifford looked gloomily at the other barn helper, not knowing just what to do, for this other young fellow was an inexperienced milker, and very slow. To milk the cows alone would have taken two hours.

"Is there any one we can get to help us with the milking to-night?" he asked.

"No," said Clifford. "No one we want. And I was going home to visit Bill Jessup next week; but I don't see how I can go now, with Folsom hurt."

"Don't you worry about that," said the generous helper. "You just go ahead. We'll get some one to help, and Folsom is likely to be back by that time."

Just then Clifford's eyes grew big with excitement. He was staring at the vacuum gauge on the milker as though he could not be sure of what he saw. The hand stood at 15, just as it had when the machine was under the pressure of the engines and air pump. An idea came to his mind. Could he milk the cows with the machine, knowing that something was wrong? One thing was certain; the gauge was out of order. The machine was otherwise probably in good condition. He would try it, for something had to be done, and Professor Pumphrey was away on a short trip and could not be bothered. Clifford must think for himself.

"Come on," he said. "Let's give the milker a trial."

Before starting the engine, he turned the valve a trifle, which relieved the pressure. The idea had come to him that the suction had been too great. The cows had shown it; the pull of the rubber pads had shown it

when he held them in his fingers; and the labored work of the little engine had shown it. Nothing startling happened. If any change was seen it was for the better, and Clifford and his partner triumphantly let the throbbing machine milk away, changing the pails and the pads to new cows and stripping the old ones dry while the next two were being milked.

When he came to Flora and Lucy he gave the pressure regulator just a trifle of a turn to relieve the pressure still more, which, he shrewdly guessed, had been too great. He could have shouted aloud when both were milked in five minutes without once stepping about or showing other signs of uneasiness.

When the herd was all milked, records put down on the chart, the milk cooled, pipes, tubes, pails, and pads all carefully washed out and cleaned, and everything made snug for the night, the boys threw themselves down upon a heap of alfalfa, tired out. But Clifford felt that he had won a victory. He had made the milker work.

The next night was his last night at the college before vacation, which he planned to

spend at home with Bill Jessup. Professor Pumphrey had not yet returned, so Clifford could not arrange for leave, which he had neglected to do. But Folsom telephoned that he was coming back, and when Clifford ventured to ask about vacation the response over the telephone was heartier than Clifford had expected.

"Sure," was Folsom's verdict. "Run along and enjoy yourself. I never quite knew why Pumphrey hired you, anyway, as I can get along all right."

The vacuum gauge was still stuck and not working, but Clifford had luckily hit upon an adjustment which was near enough to be practical. He thoroughly instructed the helper in this, and told him to tell Folsom about it when he returned. Clifford was in sufficient awe of the herdsman not to spring this piece of information on him then.

He was proud, and perhaps a little chesty, over his success, for he felt that he had scored a point over Folsom.

CHAPTER V

VACATION DAYS

CLIFFORD invited his roommates to spend their vacation with him and Bill Jessup at the farm. They were easily persuaded because it so happened that Peter's people had gone for a winter trip to relatives in the South, and Willis' friends were so far across the state that he had made no plans to go home.

Bill was highly delighted, for two reasons. It gave him a chance to show what he had been doing on the farm since Clifford had left, and it also would be a chance to talk over certain things which had occurred to him since reading some of the bulletins that Clifford had sent him from the college. Bill had become quite a student.

There were some other friends, too, who were greatly pleased to have Clifford back for a ten days' visit. These were the Boltons.

Mr. and Mrs. Bolton looked upon him as a son, no less affectionately because he had been, in a way, adopted. Nettie Bolton was also making great plans for the entertainment of Clifford and his friends.

As the train pulled in at Corinth station, Clifford saw that Old Gray and Bill Jessup were there; beside them was the Bolton rig, with Mr. Bolton and Nettie waving at him from the front seat. He introduced his two friends, and soon they were on their way home, Peter and Willis asking more questions than Bill could answer, and Nettie quizzing Clifford at a fast rate, till he gave up in laughing despair, saying, " You'll have to go more slowly, Nettie; I can't begin to keep up with you."

It pleased him more than he could tell, however, to know that his friends were so genuinely glad to see him. He had but few close friends, nor did he care for many, but the Boltons were at the head of the list, and always would be.

At the Davison place, the three boys bade the Boltons farewell for a short time, for, at Nettie's invitation, they were to come over to

supper and stay for the evening. She and her mother had arranged this, being rather less hopeful about Bill Jessup's ability to play the host successfully than Clifford had been when he had asked his roommates to spend ten days at the old place. Possibly he would have hesitated himself, if he had given sober thought the right of way over his warm, eager friendship.

The boys, though, had no thought but of the pleasant freedom of the old farm. They thought it quite a wonder that Clifford should have possession of a whole farm, to do with as he pleased. They did not yet realize that the responsibility of it all was more than either would have cared to shoulder. There are other boys like this, who long for certain freedom and authority, but forget that with this comes a man's work and care.

Bill had worked hard repairing the old place, in scrubbing and scouring the poor rooms of the house, and in keeping the live stock in such good condition that even the most suspicious of neighbors could scarcely keep back words of praise. Bill was making good, and it was plain to all that he was no

longer a tramp or a "jailbird," but was going to "stick," as Clifford had declared for him.

"Great Scott! Bill, how the shoats grow! You didn't say anything about them, so I didn't ask. I thought they might not be doing very well."

"No, I wanted to surprise you, the way they surprised me," confessed Bill, mightily pleased that his young "boss" had praised his work.

"Folks 'round here have been wondering whether I've been feeding them on your prize corn, to make them grow so fast," he chuckled.

"No, Bill, you and I know well enough that it needs something besides throwing over a basket of corn night and morning to make live stock thrifty. You needn't say anything about scrubbing and whitewashing the pen, and brushing and dipping the shoats themselves, and keeping their bedrooms dry and clean, with plenty of fresh straw, and other chores by the dozen. I know all about it, Bill, and you have done great work."

Bill blushed like a red brick at this stream of praise. He and Clifford understood each other very well, and to him, just then, nobody else counted for much.

When they were alone, he hastily dodged the subject of his good work with the animals, and began to ask Clifford questions on another subject which he had been dreaming about for several days and nights. It was the subject of Clifford's experiments with the alfalfa plants in the earth which Bill had sent him from the farm, to fill his test boxes.

"Clifford, you know what you told me about those plants needing phosphorus more than they needed nitrogen."

"Yes. I am half planning on buying a few hundred pounds of a high phosphoric acid fertilizer to use on two or three acres of a trial field next May or June. It costs a good bit of money, though, for a poor fellow like myself to experiment with. I may lose the money."

"Well," said Bill, "I may be hollerin' up the wrong spout, but you know I've been reading that college chap's bulletin on phosphoric acid since you wrote and talked so much about your alfalfa trial."

"Yes, Professor Creighton's bulletin. It may be a little dry, but it's the real stuff. You ought to hear him talk about how plants

use nitrogen, phosphoric acid, potash, sulphur, and all those things."

"You remember what he says in his bulletin about phosphoric acid in bog ore and limonite iron ore?"

"Yes, why?"

"Well, I may have a crazy idea, but you know the soil down in that swamp has a dark brown color, like that he tells about, and I was wondering if ——"

"Oh, I guess you don't need to bother about that," said Clifford. "I see what you are driving at, but you needn't worry about there being any iron ore around here. Besides, that rotten bog ore isn't worth anything, anyway."

"No, Cliff, you don't see what I am driving at, after all. It's the phosphoric acid that you have talked so much about, not the ore, that might be there."

Clifford stared. What if Bill should happen to be right?

"What makes you think there might be any of this bog ore in our swamp?"

Without a word, Bill strode around the barn and kicked a pile of queer half rotten

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brown and yellow stones that looked like frozen earth. "What is that stuff?" he asked. "I found it down in the swamp."

A look at the "stuff" did not tell anything to Clifford, but he was as keenly interested and curious as Bill. He felt the same fear of being laughed at as Bill had had; but at the same time he resolved to find out what the brown stone really was.

They turned back toward the house and joined Peter and Willis, who had been guessing at the weight of the shoats in the pen. After the chores were all done, they started for the Bolton farm, for it was growing dark, and they did not care to keep supper waiting.

The air was chilly, with a promise of snow, and they walked briskly, soon arriving at the Boltons'. A warm welcome awaited them all, for Mr. and Mrs. Bolton felt a friendly interest in Bill Jessup as well as in Clifford.

Supper was ready, and they all sat down, Peter and Willis soon being made to feel as much at home as though they had been old friends. In some way Clifford found himself seated next to Nettie, and exchanging accounts of how the past few weeks had been spent.

It seemed very easy and natural for him to tell her all the happenings at school. It seemed just as natural that she should tell him about how she planned to visit Jefferson and the college, how Dad had promised to get an automobile for next summer, and how interested she was about his work in the college barns.

They had little time to exchange confidences, though, for the chatter and laughter were general around the table, and everybody had to tell a story before he was allowed to leave his chair. Mr. Bolton told three for good measure.

After the meal, and when the boys had dried the dishes that Nettie and her mother washed, they all sat in a group around the fireplace in the larger room, talking happily. The door-bell rang, and as Clifford was nearest, Mrs. Bolton asked him to see who was wanted.

He opened the door and a swirl of snow half blinded him, while a shrill chorus of "Surprise! Surprise! Surprise!" greeted him from a merry crowd outside. This was one thing Nettie had not told him. So, with

heartly fun and frolic, the vacation days were fairly begun.

Farm boys and girls work well and play well. All through the evening game followed game, and finally the rugs were rolled up and Bill Jessup and two of the boys had sprung their best surprise. They had been practicing for several evenings, and now gave to the party their contribution of some really good music.

Dancing began merrily, and here Nettie shone, for she was easily the most graceful of the girls at the party. Willis was her equal among the boys; but Clifford and Peter were in danger of growing into "wall flowers," for this part of their education had, so far, been neglected. Clifford was not of a small nor jealous nature, but he envied Willis his easy grace.

He cheered up wonderfully when Nettie came to sit in the alcove with him through two of the nicest numbers that Bill and his friends could play. In that time they had planned two sleigh rides, a candy pull, and an afternoon of skiing, besides some details of Nettie's coming visit to the college.

After the party broke up, the quartette of

friends found that Mr. Bolton and his son Lem had hitched the team to the sleigh and were to drive them over to the Davison place. The four inches of damp snow did not make perfect sleighing, but they enjoyed this first sleigh ride of the season.

The bunks were made on the floor when they turned in at "Bill's old house." They slept soundly till Bill gave them a rousing song the next morning, then all tumbled out to shovel snow, feed the chickens and other stock, and milk the cow. Bill insisted on attending to the cow himself.

They had a breakfast that Peter called "scrumptious." Bacon and eggs, corn cakes, and the "best milk and coffee in Corinth" made up this breakfast. But, as Bill put it, "there was plenty of it, such as it was, and it was pretty good, what there was of it."

"Hens lay many?" asked Clifford.

Bill grinned, and took down an old cracked sugar bowl from the cupboard. He turned it upside down on the table, and a rattle of large and small coins followed.

"There," he said. "That's our egg money for six weeks. They began to lay as soon as

you went away, and I am supplying the folks in Corinth that are willing to pay the price. You'd be surprised if I told you the names of two of my customers. They are farmers and have fifty or sixty hens of their own."

"Bill, you are a wizard. How do you do it?"

"Bones, I think," was the reply. "I paid two dollars for a second-hand bone cutter, and every time I go over to Corinth I get some fresh bones, grind them, and feed them with the grain and mash. It may be the alfalfa, though, that I got from Mr. Bolton."

"I'll make a guess," answered Clifford, "that it's the bone, and the alfalfa, and the Dutch cheese that you made for them, and the chaff that you hide their hard grain in, and the warm mash for their breakfast, with pepper in it, and the charcoal that I saw in the box, and the dust that you let them flop around in, and the clean straw, and the dry house that they have, and a dozen other hen luxuries that you give them. You spend two or three hours pottering around that hen-house every day, or you wouldn't get all those eggs."

"Well," Bill admitted, "there's a lot of fussing to do, but I guess it pays, all right."

"It certainly does," put in Willis. "Bill has taught me more about chickens, and eggs in winter, than all the books I ever read. They say 'Poultry must have good care' but I never knew before that fifty hens are as much trouble as a couple of cows."

"Going into chickens?" asked Peter.

"I might do worse, Toddy. Will you go halves with me?"

"Not much!" declared Peter, with emphasis. "If I've got to tie down to something three times a day, I'll tie to something more than a flock of old hens!"

Everybody laughed ; even Bill.

"I'm getting fifty cents a dozen for these eggs," he grinned. "There's worse things to tie to."

CHAPTER VI

TWO SLEIGH RIDES

THE days of vacation time swept swiftly by for the boys at Corinth. Another fall of snow and a sharp "spell of weather," as Bill called it, made fine material for sleighing and coasting parties, to say nothing of taffy pulls, nut cracks, and other frolics. These usually ended with an hour or two of lively music from the violin, mandolin, and guitar of Bill and his two accompanists.

Mr. Bolton's team was always on hand to pull one sleigh load, and one of Lem's friends had a team of colts that he was fond of showing. To tell the truth, the colts were not safe as a sleighing team, but that fact only lent a little more excitement to the trips for those of the party who did not object to having something happen. Clifford was more than once rather worried by the careless ways of the

owner and driver of the colts, but said nothing openly.

He did speak to Peter and to Bill about it, though, when they neared home after a pretty wild ride after the colts. . They had raced by every team on the road, nearly upsetting half a dozen times. Not that any ordinary upset would have been cause for alarm ; but when going at the pace kept, with four or five of the girls in that sleigh, there was danger of broken bones.

"Bill," said Clifford, as they went home, "these wild colts will get us into a bad smash-up one of these days, if they don't have better handling. I don't like it."

"We can get into the Bolton rig," suggested Peter, who had felt rather uneasy himself.

"I guess I'll stay with the feller, so I can lend a hand if he ever does get into a mess," answered Bill. "Mr. Bolton told Nettie to stay with Lem's rig, though, after this, so he probably is afraid something will happen to the colts and their reckless driver. Some of the crowd like this night racin' on runners, but you'd better see to it that most of the girls stay in the Bolton sleigh."

The vacation was drawing to a close when a trip was planned to a village about ten miles over the hills, where a supper was to be enjoyed at the town hall, with a social time afterward with the Rockford Township Center Club. This club of young folks had first started as the Center Literary Club, but finding that they could have as much fun and a larger attendance and just as much literary work carried on by dropping the "Literary" from the name, they promptly did so.

The programs of the club meetings, held every fortnight, were no less "literary" in nature than planned by the founders of the original club, but the efforts of the members were now bent toward the topics of farm life and to-day's history rather than upon old, threadbare questions like "Resolved that the pen is mightier than the sword," or "That Washington was a greater man than Lincoln."

The club members were interested more heartily in such debates as: "Resolved that dairying is more profitable when combined with swine raising," or, "That the draining of half a million acres of low land was the best investment of public money made in the

state last year." The papers read by the members, and the five minute speeches made, and all the more serious parts of the program were given to subjects which fitted into the home life of these bright, growing folks.

"How I increased my income from \$1,500 to \$2,500," "What weighing and testing milk taught me about my herd," "The cold pack way of canning fruits," took the place of much of the old time "literary" material that seemed so important in the clubs of past generations. Essays on "The Beauties of Winter," "The Glories of Autumn," and home-made poems on "Spring," and "Odes to Blue Eyes" or "The Magnificent Moon" were left to the few who needed some outlet of this sort for their poetic frenzy.

Owing to a late start, the Corinth party did not arrive until the debate, the last thing on the program, was under way. "Resolved that the agricultural colleges educate farm boys away from the farms" was the subject. After a spirited tilt between the contestants, the judges decided rather lamely in favor of the affirmative. Clifford was not pleased with the result, because he felt that a wrong im-

pression had been given of college life and its results.

Rising, he addressed the chairman :

“ Mr. President, may I say a few words on this question ? ”

“ You certainly may,” answered the chairman. “ We shall be glad to listen to you and any others of our visitors. I myself do not feel that this question has been entirely answered here to-night.”

“ No, Mr. President, and friends,” said Clifford. “ I do not believe that such an important question as this one should be left this way. It has been voted here that the colleges educate boys away from the farms. The fact is that the College of Agriculture of this great state does no such thing. The records of our college show that more boys are attracted toward the different kinds of farming than are leaving by way of the class room.

“ Not all the boys in our classes come right from the farm ; but you fellows who have been talking to-night to prove that the farm college is robbing the farm can paste this in your hats : that of all the students, town boys and all, nine of every ten who have taken

the Short Course have gone back to old farms and have shown their owners a lot of mighty useful new ways of increasing profits.

"I am in dead earnest about this, Mr. President, because this is just the problem that I have set myself to work over in Corinth Township, on my uncle's old farm. I haven't done much of anything yet, and I don't want to talk about things that I think Bill Jessup and myself are going to do; but you can just wager high that our good old state College of Agriculture is not educating many in our classes away from our farms!"

This was a long speech for Clifford Davison. He sat down in a flush of embarrassment to think that he had spoken so strongly and had made his remarks so personal. But the loud applause that greeted his speech assured him that his lively defense of the state college work had been well taken. No one had the courage to renew the argument on the other side of the question.

Bill, Peter, and Willis praised him too, until he warned them to "stow it away." But when Nettie and he were having supper, after the program, he was glad to tell her all

about their debating club at college, and how it had helped him to become able to talk on his feet.

"It must be fine," she said; "for I was certainly proud of you to-night, when you just stood up and told them more real facts in three minutes than the rest of them did in an hour. And I was glad that you told them about yourself, too."

"Oh, I didn't mean to do that. It seemed to come right out before I could stop it."

"It was just fine. And you made Bill as happy as a kitten. He's been talking about it ever since."

"He'll probably talk too much," was Clifford's reply; but somehow he felt quite happy himself, as might the kitten that Nettie had mentioned.

After another hour of social fun, the Corinth party started off for their late ride back home. The horses were all "feeling their oats," and the first two or three miles were passed merrily. Then the driver of the colts began to shout challenges for a race. Lem paid no attention at first, but secretly resolved that he would stay in the road and not allow

the colts to get by him unless they could pass him outside the track.

Bill, true to his plan, had come in the load drawn by the colts, but Clifford and Peter were in the Bolton sleigh, as were Nettie and all but two of the other girls. They soon came to a place where the road widened, and the colts were given the reins. But after a half mile dash they were obliged to fall back again, because the road narrowed before they could pass the Bolton team, which had the smooth, beaten track.

Angered by his failure, the driver of the colts resolved to get by without fail at the next open stretch of road.

His chance soon came, and in spite of Bill Jessup's warning, he slapped the reins and gave a yell of defiance. Springing ahead, they raced alongside of the Bolton load, and Lem, in spite of Nettie's cry of protest, slapped his team. Neck and neck they raced another quarter of a mile, till they came to a series of "thank-you-marms," as the boys and girls called them.

These were little hillocks and ridges, where the sleighs rose and fell like boats on the

billows. The gray colts had been too carelessly hitched, in the first place. Their traces were quite loose, and as the sleigh lurched over one of the little hillocks one trace unhooked. At the next leap of the team the tongue dropped, the colts swerved sharply to one side, and right alongside of the Bolton sleigh there was a sorry mix up. The quick turn of the team sent the sleigh box flying into the ditch with all on board except Bill, who leaped out in time to keep clear of the wreck, and to grasp one of the colts by the bridle.

Clifford and Peter were out of their sleigh almost as quickly, and the three soon quieted the frightened young team and prevented a most serious runaway. As it was, there were two broken arms, and many painful sprains and bruises. The reckless driver and one of the girls had the worst hurts, and it was a very sober crowd that finally drove up to the doctor's door in Corinth.

There was another sort of runner sport, though, which was probably just as dangerous and as exciting as bob-sled racing. This was coasting, as the Corinth young people were used to carrying it out. This was no mild

manner of sliding gently down a little hill on an ordinary stupid little toboggan or hand sled. That would have been tame sport for the adventurous lads and lasses of Corinth whose parents allowed them to take part in the coasting down the "Big Hill."

Big Hill had one long slope, and at the bottom the road turned up again in a short, steep slope. The grade of the long slope was heavy enough to give terrific speed to any runner craft that was started at the top and sent down on the long incline. When that slope was iced, the rush fairly took one's breath. It seemed that the coaster was dropping away down through the air instead of slipping along on the solid old hill. The sensation was delightful to strong, healthy youngsters, but was a bit too fearsome for the timid souls. The Bolton crowd was neither timid nor frail.

But the ordinary coasting did not have "zip" enough in it to satisfy our lively friends. Their parents did not approve of their way of having fun, but a fleeting memory of their own boy and girl days kept some of them from objecting decidedly and thus spoiling the sport.

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This was the plan. Instead of an ordinary small coaster bob, they made use of a large, heavy pair of farm bobs. The speed at which these went racing and plunging down the icy hill was alarming to any but the stoutest hearts, and it was really a wonder to all that some bad accident was not suffered. For the steering arrangements were fearfully and wonderfully dangerous. They consisted simply of a strong hand sled upon which two of the boys sat, holding the end of the long bob sled tongue.

When the steersmen were well seated and had the sleigh tongue well in their grip, they yelled to the starters to "push off." This they did, then nimbly hopped on board as the bobs gained momentum. They flashed away to the bottom of the slope, then curved upward around the base, and came to a stop nearly half-way up the hill on the opposite side. A team then gave them a "lift" to the top, the whole trip requiring but a few minutes to complete.

If anything had gone wrong on the swift descent, the two boys on the little steering sled would have had but small chance to

escape unhurt. To add to the danger, the railroad tracks at the foot of the hill had to be crossed. A watchman, though, was stationed at the tracks with a flash light to warn the coasters of the approach of trains.

On the last evening before the boys had to return to school, a grand coasting party was planned, and the darkness had scarcely fallen when the big bobs were started down the icy slide on the trip which never seemed to tire the eager crowd. All went well until nearly nine o'clock, when it chanced to be the turn of Clifford and Willis to steer.

When all was ready, and they saw no warning flash from the watchers at the tracks, they started off; although if they had not been laughing and shouting so loudly they might have heard warning yells. For the fact was that the watchman's flash light had failed him just at the minute he had noticed a train coming and the coasters were preparing to start.

They say that some people see their whole lives speed by like a moving picture in times like that. The shock of danger awakens their senses and thrills their nerves to such a

tension that thoughts speed through their minds like lightning. Others are stunned or benumbed by an approaching catastrophe. Neither of these sensations quite describes the experience of the two boys on the steering sled at the end of the tongue.

They saw the fast train bearing down the track around the hill. They were gliding down at the rate of nearly a mile a minute, and the train was coming at about the same speed. Neither the life's panorama nor the opposite deadening stupor came to the minds of the cool-headed steersmen who held the lives of the sleigh load of coasters in their keeping just then. Their nerves were like steel. One of them even noticed that the fireman who was staring out at them with horrified gaze had a large star sewed or painted on the front of his cap. He wondered about it in that instant of time. They spoke but once.

"Right or left?" gasped Willis.

"Neither!" was the answer, and then it was all over.

Clifford saw the danger when just at the swiftest point of the run and had to calculate to the fraction of a second whether he must

direct the load up into the stone fence on the one side or the ditch on the other. He did neither, but shot across the tracks so closely ahead of the onrushing locomotive that the last of the huddled, thoroughly scared crowd might almost have touched the iron monster as they flashed by its right of way. The boys stayed by their work until the end of the trip, then rather weakly stepped off, hitched up their team, and very quietly drove home with their equally quiet load of boys and girls.

This was the last of the coasting down Big Hill across the railroad tracks, for though little was said, the news that a terrible accident had been narrowly averted leaked out, and the parents put an end to that kind of foolhardy fun.

CHAPTER VII

OUT OF A JOB

As the afternoon train drew in at the Jefferson station, the boys sprang lightly off and down the platform steps, highly pleased with their visit with Bill Jessup and all the jolly Corinth folks. At the same time, they were eager to get back to their class work again. Clifford, especially, was impatient to see the records and results of the dairy herd since the milking machine had been used. For the first time since he had been gone he felt some uneasiness and misgivings regarding the wisdom of having taken a vacation at all. He had a tardy feeling, just now, that it would have been better if he had stayed to see the milker through the trial, and not given way to his eagerness for the visit at home.

Thus it was not without a feeling of nervousness that he went to the dairy barn. He met Folsom, who asked rather quietly, "Well, what is wanted?"

"I'm back on the job!" replied Clifford.

Bob Folsom grinned rather sheepishly.

"I am sorry, but Professor Pumphrey sent another fellow to take your place."

This rather staggered Clifford. He had not expected that of Professor Pumphrey, so he was sure there must be some mistake.

"Why did he do that?"

"Because I asked him to give me a helper who didn't have milking machines on the brain, and one who didn't tell me what to do all the time."

This was unanswerable, so Clifford didn't try to argue. Sick at heart, he asked another question before taking his leave.

"How did the milker work while I was gone?"

"It didn't!" grinned Bob. "We haven't touched it since!"

Too discouraged to continue, Clifford left with the idea of looking up Professor Pumphrey as soon as possible. The loss of his position worried him. There was no chance, however, for him to see the professor until after class the following afternoon, and then it was hard for Clifford to bring up the matter

in a favorable light. Folsom had had the first hearing. Clifford told his story, which was listened to with great politeness.

"I can see," declared Professor Pumphrey, upon its conclusion, "that I acted hastily in this matter, but don't you see that you are partly at fault in not arriving at an understanding with me regarding the matter before you left?"

"I know that," admitted Clifford, "and all I wanted to see you about was whether you didn't know of another position for me."

"Not just now, but I am sure something will turn up very soon. You are not in immediate need of money. No—well, see me again in a few days; I may have good news for you."

As Clifford rose to leave he could not resist mentioning the milking machine.

"I see Folsom has not been using the machine."

"No. He declares up and down that it is hurting the cows and does not want to risk ruining them. I am sorry, because I really had high hopes that this particular machine would work satisfactorily."

In fact, Professor Pumphrey was more disappointed than he admitted to Clifford. He wanted to send again for the company's expert, but the machine had been delivered in perfect order and satisfactorily installed; if Folsom, able man that he was, could not keep the machine running, he decided that the average farmer certainly could not. He did not wish to give the approval of the college to a mechanical milker that was too intricate for the average man to understand.

Nowadays the milking machine companies send a man to install a milker, and this man may oversee its operation for several months, thoroughly teaching the farmer how to use it, but in those days when the machine was an experiment the manufacturers had their lesson to learn.

Giving Clifford a nod and a smile, Professor Pumphrey turned to other duties. Clifford returned to his room at Mrs. Miggles', but could not get down to serious study. The other boys found him in a rather bad state of the "blues" when they returned, and their hearty efforts to cheer him up availed only partly.

"Oh, cheer up!" was Peter's final shot. "You'll get another job; Folsom's a fake, and you're well out of the mess. Come on over to the Red Cat. I'm as hungry as a grizzly."

For the next few days Clifford had plenty to occupy his time, as the class work was becoming harder. The interest which Clifford always showed in his work was turned to other channels, although he did not entirely give up hope of being able some time to prove that the machine was all right. He began to study horses in preparation for the horse show and live stock exposition that was to be held in the Stock Pavilion at the end of the term; and in this he had an ardent co-worker in Peter, who loved horses. He also worked faithfully at his alfalfa experiment, and waited with some impatience for Bill Jesup to send up some of the bog ore soil from the Davison farm to the college for analysis.

When some of the dark brown soil came, the test showed that it had indeed a comparatively high phosphoric acid content; and without consulting any one, Clifford treated two of his test boxes of alfalfa plants with a

top dressing of bog soil, one lightly and another heavily. Then he kept his own counsel and waited for results. He had a theory of his own about how he might get good results from a piece of alfalfa on the old Davison place, back in Corinth.

Another thing that was wonderfully interesting to Clifford was the work of Professor Creighton in breeding "families" of pure seed grain. He had seen something of this work the season before, when he had won the prize acre corn contest; but the careful, patient work of the plant breeders had taken hold of him with a good, firm grip. The classes in which the study of seeds was taken up proved of most interest to him, and his eagerness was caught by both Peter and Willis, although to a lesser extent.

Clifford went farther than the mere classroom work. He followed Professor Creighton and the other instructors in their own reports. He asked questions, and still more questions, and read all the books on the subject that the library contained. He was finally given certain records to keep and report upon himself the following year.

One day the lesson had taken up the barley family, as the state was growing about twenty-five million bushels of barley every year. Professor Creighton had held the boys spell-bound as he talked of the college's work in improving barley by means of breeding and selection. In fact, it sounded so much like the work in animal selection and breeding that Willis amused the class by asking:

"What is really the difference between plants, and animals, and people?"

"Well," replied the instructor, "I may not be able to tell you that, but we know that plants live and grow much the same as animals, but they cannot think. Animals live and grow and think, but do not think that they think. People live and grow and think and know that they think. Will that do for your answer?"

After the class period Clifford followed Professor Creighton out to the seed rooms, where the seed for the next year's experiments was being carefully stored. He was not yet satisfied with what he had heard in class, and asked:

"Won't you please tell me again just what

you are trying to do in these experiments? I'm slow, I'm afraid, for I did not get it all in class."

"I didn't expect that you would get in an hour what it has taken us years to find out. But I'm glad that you know you don't know it all. Some of us do, occasionally."

"You mean they just think they think," replied Clifford. The professor laughed.

"Clifford, do you see that lot of seed? If we could coax the farmers of this state to sow that seed and no other, and had enough seed to go around, we could grow nearly five million more bushels of barley every year on the same acreage."

"I don't quite see."

"That barley has yielded five to six more bushels to the acre ever since we have bred and selected that strain, and kept it separated from the other breeds of barley. We have tried it faithfully, now, for four seasons, and it never failed. Clifford, I am willing to stake the reputation of our college work on that barley."

"Can't we get the farmers to plant this seed?"

"Yes, and yet they have been fooled so many times by stories of Alaska wheat that will yield ninety bushels to the acre, and corn that was found in the wrappings of a Peruvian mummy and which would grow fourteen feet high in ninety days, that they won't listen to us very much. It would not pay even to give this seed away to men who won't believe in it, and won't plant it."

Clifford was thinking so hard that he did not answer when the instructor paused, so the latter continued :

"This barley will not only yield more to the acre, but it is better barley, and brings more money on the market because it is all alike. The breakfast food manufacturers, and the barley meal millers, and the maltsters all want barley that is uniform in size and shape and hardness. This barley is all alike. And what I have told you about this barley is true in the main about the two new breeds of corn we have bred, and the new wheat we are just putting on the market."

Nothing more was said about the pure bred seeds that day, nor the next ; but the Saturday after this, Clifford was again with Professor

Creighton in the seed house. His first remarks showed that he had been thinking about this problem of seed selection very much.

"There are quite a number of boys on the farms in all the counties, aren't there, who have been getting the benefit of the same class work we are getting?"

The professor smiled. "Yes, indeed. The work that the Long Course boys have been doing is much deeper and more thorough than the condensed course that you are taking."

"Well, then, they ought to be even more interested in carrying on the experiments than we poor fellows who can give only two short winters to the same work they get in four long years."

"They are interested. But you see, there are a lot of politicians going around the state calling the college all sorts of names, and while we have many good friends among the farmers, we have many who doubt anything we do. We have to be careful what we do."

"I have an idea," declared Clifford, "that if we Short and Long Course fellows took that seed of yours and planted it on our farms, that we could soon demonstrate the value of

these new barleys and corns. Our neighbors, seeing the fine crops we are getting, will ask questions, and after that it will be clear sailing for the pedigreed seeds."

"You have just given me an idea," declared the professor. "Perhaps we can get the farmers to use our grains after all."

Clifford left soon afterward, but Professor Creighton sat thinking. Clifford had, indeed, given him an inspiration.

CHAPTER VIII

THE FRESHMEN START SOMETHING

"Who've you been fighting?" genially inquired Peter of Bud Speers one night at Ye Cardinal Cat.

For Bud had a cut over his right cheek, and a red scratch was showing vividly over his forehead.

Bud grunted wearily.

"Things are coming to a pretty pass in this town. Between the rough neck Commercials down-town and a few insolent freshmen, an upper classman has tough sledding. Oh, for ye olden days when the sophs ruled the town, and ruled it justly!"

"Please elucidate, and talk United States," this from Peter.

"It was like this. Bob here, and I, were walking along down-town on our way home, and had just turned from the Square, when

we met two freshmen without their green caps. So we stopped them very politely, didn't call them any pet names or anything, and inquired about their gracious health. Didn't we, Bob?"

"We sure did," returned Bob with a grin. Bob was Speers' roommate, as irrepressible as the irrepressible Bud himself. Between the two their landlady must have had many anxious hours about the furniture. Bob was rather the worse for wear himself, for his left eye was noticeably bruised.

"They said their health was fine," continued Speers, "but what did that have to do with the price of eggs?"

"I ignored their flip manner, as I could see a policeman near by keeping a guardian eye upon us—you know how those down-town cops love us studes—also there was a bunch of Commersheshes chewing the rag among themselves and hanging around to see if we would start something—the Commersheshes love us only a little less than the cops—so I merely inquired thusly:

"Gentle neophytes, do you not realize that you are violating a sacred tradition of

this glorious University? Why the absence of your verdant head-gear?’

“And what do you think those varmints did after such an eloquent speech!” chuckled Bob.

“Pasted you fellows a couple!” ventured Peter.

“Nix. They gave us the ha-ha, laughed at us—at us, upper classmen. We did exactly what any self-respecting upper classman would have done. I forgot that the cop was eyeing us and that the Commersheshes were still hanging around, and jabbed one of the fellows in the jaw while Bob tackled the other. We were some insulted, now let me tell you!

“It was then that things really began to happen. I believe that if the Commersheshes had not butted in we should have taken those frosh into camp, but about a dozen big bruisers interfered something scandalous. Before the cop could get to the scene of action the scene of action had begun to shift homeward, with Bob and yours truly playing the rôle of the beautiful damsel being pursued by the villains.”

"You didn't run?" innocently inquired Willis, as Speers paused in his tragic recital long enough to steal Bob's dessert.

Speers transfixed him with a stern look.

"The Lord was on the side of the heavy battalions and the minion of the law. If it hadn't been for the cop thinking we started the whole mess by picking on the frosh—but why bring the harrowing details to light? Suffice it we escaped, somewhat the worse for wear, but harboring thoughts of cruel revenge in our hearts."

"Well, what are you going to do about it?" inquired the practical minded Clifford.

"Hush!" Bud placed his fingers over his lips and glanced about in mock apprehension. "When dark deeds are afoot, seek thou not to pierce the portals of my silence."

Then in his natural tones he continued :

"The freshmen are Jim Blakesly and Dick Randall, down at the corner of Park and State, in the big, new, green house. They haven't exactly managed to garner a reputation for meekness during the few months that they have been here."

"Why not get a bunch together and chuck

them in the lake till the swelling in the head recedes? We used to do that back in old High School," inquired Willis.

Bob sighed.

"Those were the happy days. You certainly said something. Just don't let any of the faculty ever catch you even whispering such a thing."

"Why, is hazing forbidden?" inquired Willis.

"The faculty has placed it on the plane with murder in the first degree. Of course, it's partly our own fault, for we overdid this disciplining stunt, and really hurt one or two freshmen, and then we made the mistake of breaking a leg for the son of the president of the board of regents. After that, it was all off. Get caught hazing now, and home you go, kerplunk, and home you stay as far as this school is concerned."

"You don't seem to think very much of the faculty rule against hazing," suggested Clifford.

"Well, not exactly," admitted Speers, lowering his voice so that none of the boys at the other tables could overhear. "I don't believe

that the freshman who can take a little joshing with good grace should be molested, but I do believe that the fresh upstarts who think they are just a little better than anybody else should be taken down a peg. Shucks! Why should anybody object to wearing a green cap? They're really lots of fun, and we've all had to wear 'em."

"When Bud begins to talk like a college professor and to moralize like a preacher, look out!" laughed Bob. "There's usually villainy afoot. What Bud means to say is: wouldn't he raise a row if the faculty hadn't ruled against hazing in any form!"

"Don't you believe it," parried Speers. "I've got nothing against the freshmen. As a whole, I like the unsophisticated tribe. I had lots of fun as a freshman myself; by living up to the unwritten code I kept out of trouble, and it really did me a lot of good to discover that I simply didn't amount to a quarter down here what I had expected I would. Some day I'm going to write an essay for 'The Lit' on how to be happy though a freshman."

"Do these peaceful remarks also apply to Blakesly and Randall?" chuckled Bob.

"Well, not exactly; that is, they do, inversely speaking."

The subject now shifted to other channels, and Clifford and his friends forgot all about the incident until several days later.

As has already been inferred from Speers' remarks, hazing had been abolished at Jefferson University. By this was meant that sophomores and other upper classmen were not supposed to molest freshmen in any manner. On the other hand, freshmen most certainly could not do entirely as they pleased. The student body, through its Student Conference or self-governing board, had outlined rules of conduct for all classes, but in which the freshmen received the greatest degree of attention. Freshmen might not smoke on the streets or anywhere except in the privacy of their own rooms. They might not wear a formal dress suit or "swallow tail" or take a cab to dances except on the occasion of the one great University dance of the year, the "Junior Prom." During certain months in fall and spring they were required to wear a small green cap with a red button on the top.

If any upper classman caught a freshman

violating these rules, he might not punish the freshman himself or take any action other than to warn the freshmen that he should have to report further violations to the Student Conference. Should a freshman be actually reported, his case would be tried before a student tribunal, the Student Court. Guilty freshmen would be punished by having certain student rights taken from them for a short time, and in extreme cases a brief suspension from the University might be meted out.

The Short Course classes did not have a self-governing board, but all cases of student discipline could be sent to the Student Court at the discretion of the Dean.

Thus when Bud and Bob met the two freshmen they were perfectly within their rights in warning them civilly about the green cap rule; but in striking the freshmen, even though strongly provoked by the latter's insolence, they had committed an offense which the Student Court would probably punish severely. The hazing rule was being very strictly enforced, because hazing had been made a political question in the state at

large. As Speers had told our friends, the son of the president of the board of regents was responsible for this sad or happy state of affairs, your view depending upon whether you were an upper classman or a freshman.

It had happened in this way. This particular scion of the board of regents had entered the University with the idea firmly implanted in his young head that he was the salt of the earth, and could do as he pleased because his father had a "pull" with the faculty. Practically the same rules governed freshmen then as they did now, only the rules were unwritten, and enforced by mob spirit. Also no freshman was allowed to enter sophomorehood without having had a ducking in the lake back of the gymnasium.

The son of the regent determined that in his case that rule would have to be forgotten, and he made the mistake of telling a sophomore so. That night about a dozen burly sophomores broke the door into his room, and began dragging him down-stairs attired in nothing more substantial than his bath robe. It was only two blocks to the lake, and that was their destination. The freshman grabbed

a baseball bat that happened to be handy, and soon cleared the room of his assailants, but not until he had rather severely hurt several of the sophomores.

The end was inevitable. The next afternoon he was set upon in the streets and, despite his struggles, dragged to the pier and thrown off. When he crawled out of the water his spirit was by no means cowed, for he precipitated a fight in which he was accidentally thrown over a canoe and his leg broken.

Through the influence of the president of the board of regents, this story was printed all over the state with appropriate embellishments. All the parents with freshman sons at the University set up such a clamor for the abolition of hazing that the faculty in self-defense was obliged to forbid it entirely. It took quite a little diplomacy to persuade the students to accept the ruling without a riot, but the impossible was accomplished, and hazing was a thing of the past at Jefferson University.

The night following the adventure of Speers and Bob with the freshmen was Saturday.

Speers arrived late for supper, he and Bob breezing in when Clifford, Willis, and Peter were already half through their meal.

"The mater surprised me this afternoon," announced Speers, happily. "Sent me up a whole box of goodies, including a nice broiler all roasted and with stuffing inside. I'd like to have you fellows keep Bob and me from eating ourselves to death. Won't you come over about ten to-night and feed with us?"

"Many thanks!" declared Peter, delighted. "The grub here's all right, but it isn't in the same class with what the home folks can put up. You can count on me to the last mouthful."

"And on me!" "And me!" from Clifford and Willis in chorus.

"So be it, then," decided Speers. "We shall be looking for you."

Three weeks earlier Speers could not have imagined himself inviting Short Course students up to his room to share a "spread," but his three table mates were such whole-hearted, gentlemanly fellows that he had grown strongly attached to them. Bob, too, liked them equally as well; indeed, a strong friend-

ship had sprung up between the five occupants of this particular table at Ye Cardinal Cat.

Such is the democracy at a great state University where all the students meet on the same footing of whole-hearted comradeship.

CHAPTER IX

BUD SPEERS FINISHES IT

CLIFFORD, Peter, and Willis studied diligently until nine o'clock that Saturday night. Finally Peter threw his book aside and yawned.

"I'm getting hungry," he remarked. "Isn't it about time for that spread at Bud's?"

"It's still rather early. Bud didn't ask us to come till ten," objected Clifford. He, too, laid aside his book.

Willis was writing a composition on "The Wool Clip of America." Realizing that he might as well surrender to the inevitable, he put the composition into his desk.

"I couldn't eat that veal potpie to-night," he confessed. "The Red Kitty's cook has fallen off lately."

"Are you fellows going to doll up any?" This from Clifford.

"I won't," replied Peter. "These Saturday

night affairs have a habit of getting rough at times."

"In that case," decided Willis, "we'd better go as we are."

After half an hour more of such talk they put on their wraps and departed for the lair of the irrepressible Bud and Bob. They walked slowly, so as not to arrive too far ahead of time.

Bud and Bob roomed a long distance from Mrs. Miggles and the college campus, being only a few blocks from the business "Square" down-town. It was also fairly well removed from the student section.

To get to the room, it was necessary to walk half-way around the house and climb two flights of stairs. Up this stairway Clifford and his two comrades now proceeded to go.

They had scarcely ascended a dozen steps when they were rudely interrupted. There was the noise of scuffling up-stairs, a few sharp exclamations, and three forms came crashing down.

Peter, who had been in the lead, was promptly knocked down; he, in turn, tripped the others, and in a jiffy there was a strug-

gling heap at the foot of the stairs. The three strangers, with impatient exclamations, untangled themselves from the mass and fled up the street before the others recovered their wits enough to try and hold them.

Bud and Bob came dashing excitedly down the stairs.

"Chase them! don't let them get away!" ordered Bud. "They've swiped our basket of goodies!"

All five promptly took after the fugitives, who were now a good half block in the lead. Between gasps Bud explained the situation.

"We had been out all evening, returning just a few moments ago. We caught these fellows getting away with our basket, but before we could stop them they had pushed us into the hallway and beat it."

Clifford was genuinely distressed, not so much at the loss of the "treat" as over the meanness of the practical joke played upon his friends.

"It's a shame!" he gasped in his effort to keep up the pace. "Have you any idea who did it?"

"Of course we have," interrupted Bob. "I distinctly recognized Jim Blakesly!"

"In that case," declared Bud, "Dick Randall was the second fellow. Are you sure, Bob? I didn't get a square look at any of the chumps."

"Course I'm sure."

"Look!" shouted Peter, who had forged to the lead. "They've gone!"

He was right. Taking advantage of an alley, the three fugitives had vanished. By the time the pursuers had arrived at the alley entrance, nobody was in sight.

Speers promptly ordered the chase suspended in order to hold a council of war. The evening was warm and pleasant, which was a blessing. Otherwise, they would have been extremely uncomfortable. They had arrived at the Square by this time, at a brilliantly lighted section of the city.

"Have you any idea where they'd be likely to go?" inquired Willis, speaking for the first time.

"I suppose to their own rooms," ventured Peter.

"Hardly," laughed Speers. "If I were in

their boots, my room would be the last place I'd seek."

"I think I know where they might go," hazarded Bob. "Ted Woods' place is only a hop, skip, and jump from here, and these fellows have been pretty thick with Ted lately."

"By Jove!" exclaimed Bud, eagerly. "I believe you have hit on the answer. Of course, they'd go to the nearest place they knew. Let's investigate, anyway."

Bud explained for the benefit of the others that Ted Woods also was a freshman, but lived with his parents right in Jefferson, being a graduate of the Jefferson High School. The Woods had a modest flat in a big apartment house about half-way between the Square and the lake. Ted Woods had made himself about as obnoxious as Jim and Dick to the sophomores by his steady disregard of prescribed rules. The three constituted a trio that had long been marked for punishment at a convenient time.

Acting upon the possibility suggested by Bob, the five conspirators walked boldly up to the apartment house.

The whole of the flat seemed to be in dark-

ness. Out of one window, however, gleamed a narrow shaft of light where the shade had not been pulled down far enough.

Bud sneaked up to this window, returning immediately.

"They're there," he announced, excitedly. "Jim, Ted, Dick, and another fellow I don't know. They're rummaging the pantry for some more stuff."

"What shall we do about it?" inquired the practical Clifford.

"Get the grub back again, of course!"

"But how?" demanded Peter. "Those fellows are bigger than we are."

"We'll have to use a little diplomacy," decided Bob. "Now, if I could only get into the basement!"

"Then you could smoke them out," suggested Willis.

"While we'd rush the house and help ourselves," added Peter, quick to take up the idea. "Better try it, Bob."

"Just a minute!" pleaded Clifford. "Where are the Woods folks gone to?"

"To bed or out for the evening. In either case, they won't be able to bother us."



THE CURTAIN HAD NOT BEEN PULLED DOWN

Thus it was decided. While Bob tried to get into the basement, the other four walked off a few paces so as to avoid rousing suspicion.

Bob succeeded without very great trouble. The plotters inside had evidently entered through the kitchen door, for it was still unlocked. A light in the kitchen revealed a half open basement door.

He tiptoed across the room and got into the basement without any trouble. He readily discovered a light switch on the stairway, which he turned, flooding the basement with light. He smiled good humoredly as he overheard Jim Blakesly boasting in the dining-room above:

"Say, but we did this slick! U-m-m! A whole roast chicken! My! but this is a *feed!*"

In a bin near the furnace Bob found a small bag of old rags. A pair of old rubbers also was brought forth by the industrious searcher. Taking a piece of newspaper from the kindling bin he wrapped some old rags in this, lighted the mass, stuffed it into the ventilating flue, and when it was burning briskly,

threw on one of the rubbers. Then he stole out of the house undetected.

"Good!" declared Speers when Bob had reported. "Something ought to happen soon!"

"I think our best plan," suggested Clifford, "is to creep up to the rear door. Some, if not all of those fellows will probably run down to the basement to investigate. Then we can nab the stuff and beat it without too much of a rumpus."

As this seemed the sensible thing to do, Clifford's plan was carried out.

They did not have to wait long for developments. There was a sudden commotion within, and a window was thrown open. A subdued cry of "Fire" escaped, but was immediately suppressed. There was a scurry down the basement stairway and somebody threw open the kitchen door.

"Now's our chance!" whispered Bud. He led the rush inside. Bob seized the boy in the doorway and, assisted by Peter, pushed him outside, where he lay too dazed to move.

The table in the dining-room was unguarded, for its two remaining occupants had put their

heads out of the window to escape the sickening rubber fumes. The basket was still on the table; in fact, had been only partially unpacked. The roast fowl was lying beside it, uncut. Glasses of jam, evidently secured from the Woods' larder, as well as a partly cut loaf of bread, adorned the table. A royal midnight "spread" had certainly been contemplated!

"Quick, Cliff!" ordered Bud. "You and Willis grab the eats and run for it!"

The affair was over in a jiffy. Bob, Bud, and Peter each took a chair and brandished it threateningly over the now withdrawn heads of the fellows in the dining-room.

"This is a horse on you, Jim Blakesly!" jeered Bud.

"Here's where we pay off a debt!" added Bob, addressing his victim, Dick Randall. Peter merely kept an eye on both to prevent a sudden coup.

When the basket was secured, the five conspirators rushed from the house, knocking over for a second time the fellow who had been by the kitchen door.

Fifteen minutes later, back in their own

room again and the luncheon safely spread out on an improvised table, Bud and Bob were in high fettle.

"Too bad we didn't break a chair or two on those impudent frosh!" mourned Speers.

"I think it is best this way," decided the sensible Clifford. "None of us really can afford to get into serious trouble, and we more than evened the score."

"I rather think," chuckled Bob, "that we know three freshmen who won't bother us again in a hurry.—Say, Bud, how do you suppose they ever got wise to our basket of goods?"

Bud grinned sheepishly.

"I told Alice about it up at Main Hall this afternoon, and I remember now that Dick Randall was hanging around close enough to have overheard me say we'd be gone for a while to-night."

"Alice!" exclaimed Bob, roguishly. "Seems to me Bud spends most of his time between classes with Alice."

"Get out!" declared Bud, in pretended disgust. "You know well enough an engineer has no time for fussing!"

CHAPTER X

PREPARING FOR THE EXPOSITION

"SAY, Cliff, you are not going to enter both the horse showing and judging contests, are you?"

This from Peter one night as the three roommates were taking a slight vacation from study.

"Had an idea once of doing so, but guess I'll be too crowded to compete for more than the showing contest."

Peter drew a breath of relief.

"I'd sort of like to try in the draft horse judging contest, but I wouldn't enter against you. I don't enjoy being beaten by my own roomy."

"Nonsense. You'd probably skin me hands down. However, I announce here and now I'll stick to the horse showing and farm engineering end of the show pretty largely. And I'd be tickled to death to help you all I can."

"Thanks for the offer ; I certainly will take you up on it. How about you, Willis ? "

"The sheep department for mine. I couldn't tell a drafter from a coacher."

Peter and Clifford snickered, for Willis made no secret of the fact that he didn't know or care much about horses. He could nearly always be found in the sheep barns, however, working over his pets.

For several years, the College of Agriculture had been giving a most interesting exposition toward the close of the school year. This annual affair was held in the big, new live stock pavilion down near the end of the group of college buildings.

It was a great event, not only in the life of the college but also in the social life of the town and, to some extent, out in the state at large. Prizes were then given to students for good work in various departments, and these were what Clifford, Peter, and Willis were now discussing. The resources of the state were also shown to visitors of the exposition. The finest live stock owned by the college was led out on parade. This year's display of all kinds was to be the best of any previous year,

and all the classes and their instructors were enthusiastic over the special parts allotted them. This year, the Commercial Short Course basket-ball game was also to be a part of the program.

As has already been mentioned, Clifford's earlier idea of competing in both the draft horse showing and judging contests had to be abandoned on account of his rush of other work. Nevertheless, he entered heartily into the class-room work that centered about the various phases of the live stock industry, under the direction of Professor Pumphrey, Dr. McAnder, and Shepherd Kline. The talks and lectures of the two last mentioned were the most interesting and lively.

Dr. McAnder was the draft horse specialist. He was a Scottish instructor who not only knew all the points of heavy horses, but all about their diseases, tricks, and dispositions; and had withal such a bright, quaint manner of giving instruction that all the boys enjoyed his classes thoroughly. Shepherd Kline was also very practical in his line. He had been in charge of the college flock for twenty-five years and had won so many prizes for the

college at great live stock shows that his reputation was nation-wide. And he could teach !

The difference between the stock showing and stock judging contest should be noted, for the two were totally unlike. The showing contest was for the horse department only, and required that a student take a horse and prepare it for the show ring.

Clifford, who entered the horse showing contest, had to select his horse, train it to lead well in the ring, had to learn how to braid its mane and tail, and how to lead the horse before the judge.

In the judging contest, Peter simply would have to pick out what he considered the best horse, and Willis the best sheep. But there are so many defects in a horse that the inexperienced man will overlook that skilful placing of horses in the show ring really is an art requiring long experience for expertness. The same is true of sheep, because the eye is of little value there ; the sensitive fingers of the judge must penetrate the fleece to discover the defects and good points of the carcass beneath.

The three boys at Mrs. Miggles' had the habit of taking turns at quizzing during the study periods in the evening. They had found that a very good way to master the points brought out at recitation. In this study quiz, Clifford seemed to have the best success. Peter once remarked :

"Cliff, you're the meanest quizzer on the faculty !"

"If I didn't show you up once in a while, where would your good marks go?" was the sarcastic reply. And to rub in the point he asked :

"What proportion do the points of a draft horse have, Peter, on the score card?"

"General appearance, 29 ; fore quarters, 32 ; hind quarters, 32 ; body, 9 ; head and neck, 8."

"In other words 110 points, or a horse and a tenth!" was the withering response. "If you won't learn to know your horse better, what chance will you have on exposition night? I'm ashamed of you, Peter. How about it, Willis?"

"Oh, I know," interrupted Peter, before Willis could answer. "Fore quarters count only 22 points."

"All right. Now what are the points under general appearance?"

"Weight, height, action, form, quality, and temperament or disposition."

"Which count most?"

"Well, they are pretty evenly divided, but weight and action are down as the heaviest points. I should think that disposition should count just as much."

"I suppose," said Willis, "that it is taken for granted that a good drafter has a good disposition; and if he hasn't, those three points are taken away."

"No. Dr. McAnder said that not more than half should be taken away on a cut of any points. You can't take away a horse's disposition entirely."

"I've seen some that deserve to have all of it taken!" declared Willis solemnly.

"What is good weight for a drafter?" asked Clifford, ignoring the quip.

"Over 1,600 pounds."

"Form?"

"Blocky," answered Peter.

"No; symmetrical," objected Willis.

"Well, who is right?" demanded Clifford.

"Dr. McAnder said symmetrical. I have it in my note-book," insisted Willis.

"He sure said blocky, because I put that down," and Peter reached for his note-book.

"Never mind your notes. What do you yourself think?"

"I can't see how a horse can be both," insisted Willis.

"Nor can I," from Peter.

"Well, I can!" declared Clifford. "A house doesn't have to be curved to be symmetrical, does it? It is symmetrical if it is well proportioned. Why can't a blocky animal be symmetrical also?"

"All right," admitted Peter. "I'll agree that you're right if you'll agree that I'm right too." This to Willis.

"He'll have to," laughed Clifford. "Now, why are the hind quarters given more importance than the fore quarters?"

"Because they must stand greater strain in pulling."

"What points are most important in hind quarters?"

"Hocks, 8; feet, 6."

"Good head! Now, Peter, what is a good foot?"

"Sound, even; hard horn, waxy; soles concave; bars strong; frogs large and elastic; heels wide, one-half the length of the toe; vertical to the ground."

"Polly wants a cracker!" mimicked Willis. "You sure did say that like a parrot."

"Had to learn it by heart," said Peter, "or I never could have it the way I wanted it. Got that on the way home to-night."

"Anyway, don't say it that way in class to-morrow, or the fellows will have a fit. Sort of hesitate, as though you were taking it out of a store of real knowledge instead of saying it like you order your dinner."

"That's all right," declared Clifford. "He learned it, anyway, and I'll venture you didn't. How large should a drafter's heel be?"

"Large enough to fit his shoes!" again broke in Willis.

"Oh, dry up, Willis! If we were talking about your pet Nannies and lambies and rammies you would be Johnny on the spot, but Peter is going in for that work in fitting,

exhibiting, and judging the horse. He is going to have charge of the Percheron stallion, and I want him to win; so don't gum the works. What I meant to illustrate was that a drafter's feet must be large, or they will be cut in the score card."

By the time that the conversation had progressed this far, the trio would usually be so tired that they would unanimously vote to adjourn and go to bed.

On other days Peter would accompany Clifford to the great college stock pavilion, where the horses were stabled. Clifford had selected a great, black stallion as the one he would train specially for the big exposition. This stallion was a magnificent Percheron, full of life and fire, and in many ways not over safe to handle. But the boys were not a whit afraid, and the stallion, sensing this, kept on his good behavior. Besides, he was becoming rather accustomed to being pawed over by the dozens of boys in the class demonstration hours.

As has before been hinted, to show a horse properly competition against other horses is an art. Of course, no really poor horse, even

when well shown, will defeat a good one, but in the great fairs and expositions, where perhaps a dozen almost equally good horses may be pitted against each other, it depends upon the skill and quick wit of the show man whether or not his horse is favorably placed.

It takes skilful handling to put a stallion through his paces in such a manner that he will always show snap and action, that he will not sag in the back, that he will hold his head high. Only a good horseman can so groom his charge that the skin is kept soft and pliable, or can braid ribbons neatly into the mane and tail.

All this Clifford had to learn to the best of his ability in the few short weeks before the exposition. His greatest inspiration came from occasional chats with Dr. McAnder. The doctor, beneath a deceptive crust and in spite of a nasty "bark," was really very genial and whole hearted, and delighted to help earnest students to all the horse lore at his command.

Willis had a rather different, and in some respects more difficult problem than either Clifford or Peter. Sheep are at once the

hardest and the easiest live stock to handle. Some men never succeed no matter how earnestly they try, while others seem to do the right things by instinct.

Willis loved the gentle, timid, and stupid flocks of the college in all their breeds and variations, from the heavy Hampshire Down, with its golden-tinged fleece, to the nimble Cheviot, that was as active as a wild goat.

Shepherd Kline knew more about sheep than most men had forgotten ; they were his one passion, and woe betide the unlucky student who did not show proper appreciation of all the tribe of golden fleece and hoof. It did not take him very long to discover that Willis was a natural shepherd, and once sure of that, there was nothing that "Old Kline" would not do for the retiring, mild-mannered Willis.

He taught Willis how to train his hands and finger tips, for the shepherd depends more upon the touch than upon the eye in judging sheep. In addition, he showed Willis how to clip and trim sheep for the show ring, shortening the wool here, leaving it longer there, and so blocking out the animal that to the eye it

seemed almost perfect in its outlines. It would require the practiced hand of the keenest judge to discover the irregularities of the flesh beneath the symmetrical wool growth.

And thus the three boys worked on, Clifford and Peter in the horse barn, and Willis with his flocks; all busy, and all happy with a sense of something accomplished.

CHAPTER XI

MORE TROUBLES

THE next week was not altogether a happy one for Clifford. Perhaps the stars "were not in happy conjunction." Perhaps Clifford himself was to blame for his own carelessness. At any rate, that is what one would say who did not believe in luck.

It began on Blue Monday. Up in the plant testing rooms a friendly scuffle ended in a rather rough sparring match in which Clifford took considerably the worst of the punishment. This in itself was of no importance; but the plant room was no place for any such fun, as was proved to his speedy sorrow, for he lost his balance while making a vicious swing at his opponent, and fell over one of his boxes of alfalfa plants, which crashed to the floor, wrong side up and then over on its side in such a manner that the plants were completely uprooted and ruined. This

happened to be the most important of his boxes, namely, the one most heavily treated with the bog ore soil from the swamp on the old Davison place back at Corinth. Clifford was especially distressed over this, for the plants had been responding to the bog soil, and he was in high hopes that his experiment would be of value. Now he would have to start all over again, and his time was limited.

As he gloomily scraped up the spilled earth and put it back into the box, he had a feeling that things were going decidedly wrong with him. The loss of his position at the barn, the abandonment of the milking machine experiment, the loss of the alfalfa test box, all combined to daunt Clifford's usual good nature. He was not a boy to give way to the blues very easily, but he would not have been human if troubles could not have depressed him at least a little. The other fellows who witnessed his accident were sorry and clumsily offered their regrets, for they liked this earnest young fellow from Corinth. They had heard a little of his story and were intensely interested, for Peter and Willis had brought a short and vivid, if exaggerated, report of con-

ditions that Clifford and Bill Jessup were contending with. It was the fact that Clifford was carrying on the work of this farm himself, though, that looked biggest and best to the other boys. There is something about making his own plans and carrying them out himself that makes a boy feel that he is a man.

In the class that afternoon Professor Creighton unconsciously added to Clifford's humiliations of the week. He called attention to Clifford's alfalfa experiments in a long lecture, explaining that he considered them of the greatest importance. Clifford squirmed uneasily in his chair during the talk, but the instructor, absorbed in his work, failed to pay attention. He continued rapidly :

"You will take notes of the appearance of the plants in the test boxes now in Davison's care. The experiment is well along—— Well, Davison, what is it?"

Clifford rose, red and uncomfortable.

"I'm afraid I've been careless, sir, for I upset the box that had been most heavily treated with bog ore, and the plants are ruined."

Of course, Professor Creighton learned the

story, and he lectured Clifford and the other lads severely upon the folly of breaking discipline in the laboratories. Secretly, however, he liked Clifford's straightforward avowal of guilt, but felt that it was necessary to give his lecture for the effect on the rest of the boys. It must be admitted that the Short Course men were rather notorious for "roughing things up a bit" now and then. Coming from farms of hard labor, the physical idleness of college forced them to work off "steam" in some way.

Clifford made another mistake that unlucky "Blue Monday." Instead of attending to his classes as he should have, he "cut" and started out around the town looking for a "job." This was not so urgently necessary as he imagined, but he did not wish to wait until the two gold pieces in his purse were gone. So he began to inquire for a place to work in the usual aimless way commonly followed by those who have had little experience in working for others. At a restaurant he asked for a place to wait upon table or even to wash dishes. One of the hustling proprietors asked :

"Ever sling the hash or soak the tea lead?"

"Er—what was that?" stammered Clifford.

"I didn't quite understand you."

"Thought you wouldn't. Sorry, lad, but I don't believe you'd do here for a good while; and we haven't time to break in any new boys just now."

And so it was all through the afternoon. There was always a "but" and an "if" between him and a little money. As he trudged wearily and despondently back to his room at Mrs. Miggles' he hummed softly to himself: "For Monday is *my* Jonah day!"

But he cheered up immensely a little later, for Professor Pumphrey called him on the 'phone:

"I missed you at class this afternoon. I was going to tell you that I had a job for you in the mechanical building under Farm Machinery. It will take only about two hours a day. Can you take it?"

Could he take it! Clifford accepted the place so quickly that it made Professor Pumphrey gasp. He stammered his thanks.

"That's all right; I am glad to help you out. But try not to cut classes very often."

And then fate, just to show that she was not yet through with Clifford, cut another caper. As Clifford returned from supper, feeling at ease with the world again, he stepped into Mrs. Miggles' living-room to pay her his installment of room rent.

Even that matter-of-fact little lady was startled at the look of despair that crept over Clifford's face as he felt in one pocket and then in another, in a search that he knew instinctively to be useless. "Why, what is the matter?" she inquired sympathetically. "Did you lose something?"

"I believe I lost the money I was carrying to pay you."

Mrs. Miggles was genuinely concerned. She knew Clifford pretty well, she thought, and did not suspect him of playing the old dodge of the lost purse that landladies of this jolly university town knew so well.

"Don't you worry, Clifford!" she reassured him. "I'm willing to wait a week or two, and perhaps you will find your money by then, or earn some new money."

Clifford thanked her heartily, and told his bad news to Peter and Willis. They were all

sympathy, but of course could not help him any.

"Gee, you look like a licked dog!" declared the ungracious Peter. "You can't study, feeling as you do, so better go over and practice with Coach Grant again. I've heard that he's taken quite a fancy to your playing."

"He takes a queer way of showing it, then," remarked Clifford, in his gloom. "I've been on the sub squad so far; and I've a good notion to quit trying for the team. I'm pretty busy, anyway."

"Shucks, I've never suspected you of acknowledging a licking so easily!" taunted Peter.

"Better go one more night," suggested the more reserved Willis. "The exercise will take away the blues. Besides, you never can tell; one of the fellows may break a leg or something."

Clifford finally decided to go, although rather reluctantly. Since his rather successful first night he had been outstripped by the heavier fellows of the squad, and Coach Grant had picked a team that averaged better than one hundred and sixty-five pounds. It is true that Clifford was a clever player, and one

of great promise ; but it takes more than a few weeks to turn a green player into a veteran, especially when his light weight is a handicap. Part of his discouragement however was due to the fact that he did not yet understand Grant. Like so many coaches, he worked on the theory that the only way to get the best out of the men was to drive and scourge them, in which words of praise were much scarcer than sarcastic flings. It would never do to let a man know that he was well pleased with him. But on occasion he could give a player his dues, as Clifford discovered later.

The coach had cut the squad down to Camp at center, a big fellow ; Murray and Bradley, forwards, and members of last year's team ; and Weimer and Axel at guard. In fact, if anything happened to any of these men the coach would have found it very hard to fill his place, for as yet he had not discovered a substitute or second string man who could enter into the work of the team with smoothness and skill.

The coach gave his men a short lecture before practice commenced.

"There are only a few weeks left before the game with the *Commercials*. Those games you have been playing were merely good practice, but this last game will try your mettle. I am frank to say that if your playing does not take a sudden boost you will have the daylights trimmed out of you. Goodness knows you fellows are big enough, and some of you are fast enough, but you just don't deliver the goods. Not one of you is any good at free throws from the foul line, and you sure have bad eyes when it comes to making a basket in the swirl of the game."

He went on to outline the weakness of each player, and then laid out several trick plays for them to master.

Clifford was put in at forward on the second five; Axel was the regular guarding him. The coach decided on a fifteen minute game between the two squads, and warned the men that the refereeing would be strict. And it was.

Murray and Bradley, with the confidence of their long experience in playing, set themselves down to the task of showing up their guards; and they were not over nice in their

manner of doing it. They "roughed up" their lighter opponents considerably, and Grant penalized them constantly. The coach said never a word, reserving all his comments for the end of the game. He was making a discovery, and he wanted more information.

It happened when Murray made the first foul. Clifford was given the ball for the free throw, and he sent it sliding gracefully into the basket. He had never been tried this way before; but as none of the others on the second squad had shown any skill in this, Clifford was given the ball a second time. Again it registered a score. In all, the short game gave Clifford fourteen chances, and he scored twelve times. Even the players began to notice.

And yet all the coach told Clifford was "Fine work, boy! If you could only play as well as you can throw!" And Clifford, who was beginning to become well pleased with himself, felt a sudden chill of ardor, but determined to come and practice a little harder from now on. He would show the coach that he could play also, even if he had only one hundred and forty-five pounds.

"You fellows were punk, rotten, no good,

to-night!" glared the coach at his team. "Fourteen fouls in fifteen minutes! Enough to lose any ordinary game. And, Murray, you'd better take a sudden brace. You made six of those fouls yourself, and played a mighty sloppy game besides. You needn't think that because you've been on this team before you can loaf on the job, and get by me. You need a little more practice. You've been cutting altogether too much lately to suit me. Tell your girl to wait till after the game!"

At this last the boys grinned delightedly, for Murray's was a notorious case. But Murray couldn't see the joke, for he scowled angrily, although refraining from any reply.

As Clifford was leaving the gymnasium after his shower and rub-down, Grant called him aside.

"Say, Cliff, I want you to be sure and come every night. I think I can develop you into a regular for next year,—and who knows what will happen this winter. I may be able to use you."

And thus did Clifford's Blue Monday end with a glow of enthusiasm after all.

CHAPTER XII

ON THE RIGHT TRACK

ON a dark, lowering Sunday afternoon Clifford sat alone in his room at Mrs. Miggles', thinking and planning rather doubtfully about his future. A storm was brewing outside ; the other boys were away, and altogether it was the sort of an afternoon when a fellow away at school is likely to get into the dumps. Clifford was in the dumps that afternoon.

Professor Pumphrey knew boys pretty well, and he knew what a fit of the blues does to one. So he had a habit of dropping in on some one of them nearly every Sunday after dinner. He had no family, and seemed to consider that members of his classes belonged to him. They used to wonder how he got around to see so many, and how he managed to strike them when they just seemed to be in a special need of good advice and heartening cheer.

Clifford stared out at the scudding clouds,

wondered what Bill Jessup was doing, and rather wished that he was back home working with him, when he saw Professor Pumphrey coming up the walk. Before Mrs. Miggles could let him in, Clifford was at the door and showed by his manner how glad he was to have a chance to talk.

"Well, Clifford, are you at home this afternoon?"

"I certainly am, Professor Pumphrey, and glad to see you."

"Other boys here?"

"No, they went for a walk around the College Farm."

"And you didn't care to go?"

"Oh, not just that, but ——"

"Perhaps you were thinking?"

"I thought I was."

The professor laughed, and said :

"When I was at school I remember that a bleak day, and especially a dark gloomy Sunday afternoon, sometimes used to make me feel as though I had sailed into the doldrums and couldn't get out, so I was glad to have even an old teacher come in and talk until I was well out of the doldrums."

"What are the doldrums?"

"The old sailors call them the horse latitudes. My grandfather used to sail in his younger days from Massachusetts to the West Indies and he once was caught in these baffling winds and currents and could not get anywhere for days and days. Fellows get into the doldrums at school sometimes in about the same way."

Clifford smiled as he understood. "Yes," he admitted, "I guess I was in the doldrums."

"What are your plans for the spring, after school closes?"

"That's just what I was thinking about, or thought I was thinking, when you called. I'm afraid that I've tried to do something that I can't, or started something that I won't finish."

"Perhaps you have. Tell me all about it, won't you?"

"I'd like to, if you care to hear," declared Clifford, frankly. "I haven't any folks, so I must work along in my own way with what help I can get from the advice of my friends. After my father and mother both died I went to Corinth to live with my Uncle Barney.

Uncle was an old time farmer who did things always the hardest way because his grandfather had worked that way, I suppose. He worked from early till late but never made more than a living. The farm was called the old Davison place because he had lived there so many years, not because he owned the farm. He paid cash rent for a good many years and sometimes I believe he had little left after the rent was paid. He had so little live stock, so little stuff that he could sell for cash, and so little of any one crop, that he could not get ahead.

"I guess he had mighty little of anything except hard work all his life, and I suppose that made him hard himself. I am not very old but I can see plain enough that he never could get along because he would work, work, work, and never learned to think for himself. He kept our heels running after our heads all the time.

"He was honest as the daylight in all his bargains with other folks, but he robbed himself, Professor Pumphrey, and he robbed me, too, not knowing that he did."

"Very likely," remarked the professor.

"Many men do that. But tell me, what was it you wanted and didn't get?"

"Uncle Barney was good enough to give me a home with him when I had no home of my own. I was ready to help him, always, but the work on the farm had to go just as Uncle's grandfather had taught him to make it go. There was only baby work, like picking up chips, and running errands for me to do. I'm not complaining, but I got tired of following the plow to kill field-mice.

"The worst of it was that I couldn't go to school, even when there was no work to do on the farm. Uncle Barney thought that because I could read and write and figure well enough I had no more business in school. What made him most opposed to school, though, was the way the teacher showed us how to test seeds, spot sour soil, treat seed potatoes and seed grains so that scab and smut spires would be killed, and all that sort of thing.

"He thought this was all nonsense, and that the teacher had no business mixing in such things. Uncle Barney probably never even had heard that there was a state College of

Agriculture, and if he had had, he would have laughed at the thought of teaching farming in school. The neighbors who did follow the new ways never troubled to talk to him about it. They knew better.

"Once I had some seed corn in a testing box, sprouting. Uncle Barney stumbled over it, and it made him so furious that he dumped the box outdoors and spoilt the test work. He said things, too, about my work that made me sick of the place I was in and I started to run away. I was ready to leave one night, when the barn was struck by lightning and burned down, and Uncle Barney was killed while trying to rescue a horse.

"I was hurt, too, and disabled for several days. I was glad that Uncle never knew about my plan to leave him, because he was a good man even if he didn't get along and didn't believe in new ways to grow bigger crops of better grain and potatoes. I suppose he was too old to change his ways of farming.

"After I had finished up the season's work, I somehow wanted to make the old Davison place do better, and so I took the lease myself

and started out to work the farm. Mr. Bolton has helped me a lot, and I hired a good hand that came along looking for a chance to work. The neighbors called him a tramp, and warned me not to keep him, but if Bill Jessup is a hobo, I want to meet more hobos. He catches on to a new idea like a league player to a pop fly and he saves more egg money than his wages come to. Fact is, he doesn't ask for any winter wages—just seems to hang around and do chores because he likes to."

"Well," asked Professor Pumphrey, "what makes you doubtful of the future? You seem to have good plans. Why not go right ahead and carry them out?"

"It's this," explained Clifford. "I don't know whether I have any right to have plans at all. I am only a boy. I think that I could run a farm, but nobody else seems to think so, except Mr. Bolton. Of course he has helped me, but I mustn't be dragging on him year after year.

"Then, you ought to see the place. I mean, you ought not to see it. There's a poor little tumble-down house, a poorer little cow barn or shed lined with corn-stalks so as to keep it

warm, a chicken coop, and a little box of a pig pen. The fact is, there isn't a decent building on the place. I can't make any plans for keeping any more stock until there is more barn room and better quarters all around."

"Won't the owner build a new barn in place of the one that was burned?"

"No, the lawyer in charge of the lease says that no money will be spent on the place. The fact is, I couldn't buy any cattle anyway, for I have no money. The only plans I can make now must be for growing crops that I can sell for cash. This will not pay as well as feeding those crops to cows and other stock, but it is all that I can hope to do. Even that may be too much of a job for a fellow with no capital. Sometimes I feel like giving up; but I should like to show Corinth folks that I can make good."

"Clifford," declared Professor Pumphrey impressively, "I want to tell you that I think you are on the right track, and that you are wrong when you think of giving up your plans. You say that you have no capital. Now, any boy or man who can grow more than ninety-eight bushels of corn on an acre

has a good sort of capital. You say that you are young to be planning the running of a farm. The very fact that you are making these plans proves that you are not too young to succeed.

"Don't get the blues. At any rate, don't let the blues get you. I don't know what kind of a soil there is on the Davison farm, but I know Mr. Bolton and feel certain that he never would have encouraged you to go ahead there if there had not been a good chance for your succeeding. I have seen scores of boys start out in life in this state with no better chances, no bigger buildings, no more live stock, and no more brains and sound sense than you have. Will you believe me when I tell you that not one has failed because of his small start?

"You may be interested to know that Mr. Bolton himself started on a farm much like the Davison place. There is no doubt that he remembers it, and thinks about it when he sees you going on with plans for the old farm where your uncle struggled so hard. You have a better chance because you are ready to take up the new ideas that will help you

understand your soil, your seed, and the means of making them do the best for you."

"But there is very little there to work with. The tools are old and clumsy. There is only one old horse. There is no money to do any more with than Uncle Barney did. It is this that makes me more afraid than anything else. I may be on the right track, as you say, but how can I get along when I am kept in a corner at the start by want of money? That is what gives me the blues and makes me wish sometimes that I were working for wages this winter instead of taking the Short Course."

"I know, Clifford. Many a fellow has felt just like that, even when he knew that he was getting a start in a different and better way than if he were earning a few dollars in wages. You are young, as you say, and will have many hard knocks and many blue days before you win success. But, my boy, I see success for you, as sure as I live. I am proud that you have planned to run the farm. Many of the other boys are envious of your opportunity. This winter's work will help you, and I want you to do your best here

in spite of any little difficulties that may come up to bother you. Come back again next year, too, and then you will be more sure of yourself, so that you will get right along with your plans.

“I must go now, and I’ll promise never to give you another sermon, but remember that I have been telling you the truth to-day.”

CHAPTER XIII

GOOD WORK IN FARM MECHANICS

THE next day the board of regents made a visit to the College of Agriculture to see whether the new milking machine was working satisfactorily. Three of the board were hostile to the machine from the beginning, and hoped secretly that rumors about its not working properly were correct. The others, while not strictly favorable, were honestly desirous of giving the milker every chance to prove its worth.

The board was somewhat surprised to find the machine not being used, and Professor Pumphrey was obliged to tell the men that the herdsman was afraid the cows would be ruined because of the powerful suction of the machine. He himself had not dared risking any injury to the herd of pure bred cows by insisting upon the use of the milker against the advice of Folsom.

The three men who had always objected to

"newfangled" experiments now nodded their heads wisely; but the entire seven accompanied the professor down to the dairy barn, where they began to ask questions of Folsom: "Why had he stopped using the machine?" "Was he certain that it was in the best order for milking?" "Had he used it long enough to know?"

"The milker did not work well," answered Folsom. "I could not use it, and did not want to use it when I found that two of the best cows in the herd were being injured. They showed this by shrinking nearly one-third in their milk flow as soon as the milker was used, besides growing very nervous and uneasy."

"Why did you not send for the manufacturer's expert to see what was the trouble?"

"Because," answered Professor Pumphrey, "the dealer had installed the machine with the help of this expert, and both had declared the machine in working order. We felt that if we had to have the services of an expert all the time that the farmers, who in the main were less well trained than Folsom, would not succeed any better with the machine."

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"There is something to that," agreed several of the regents. "If this milker isn't simple for Folsom to run after it is installed correctly, it isn't simple enough for us to recommend."

The other regents, however, did not so readily give up their cherished plan. But there seemed no prospect of making further trials, until one of the stable boys let drop a chance remark.

"Clifford Davison made it work!"

Folsom turned upon him angrily.

"There was a fellow once who was kicked in the head by a mule and afterward believed everything he heard," he flung out sarcastically.

Enough had been said, however, to arouse the curiosity of the regents, and Professor Pumphrey was glad to tell how Clifford had apparently been successful in milking the herd once.

"Where is this young man now?" asked a regent.

"He is here in the College Short Course. I have just arranged work for him at Machinery Hall, as he is in need of money."

"Why did he leave the dairy barn, if he could manage the milker?"

Back at the office, Professor Pumphrey told them the whole story. Clifford was called into the conference, and his story secured. Even the doubtful three were obliged to admit that the milker deserved a fairer trial, and one voiced the opinion that Clifford should carry on the trial.

Professor Pumphrey decided that inasmuch as Clifford was not needed in the dairy barn, but very urgently in the engineering department, Folsom should be trusted to continue work. Folsom, having had his lesson, would probably forget his prejudices long enough to give the milker such a trial that no further doubt could be cast upon its work.

Mr. James, the regent who had shown such interest in the chance remark that Clifford had made the milker work, remained behind with Professor Pumphrey after the others had left to take a short trip down to the horse barns.

"I was rather on the fence about that milker question," began Regent James, "until I heard how young Davison had used it. If

he can use it, why can't our herdsman? Is he right about what he claimed of injury to the cows, or is he just plainly prejudiced against the machine? I want to be fair about this, and give the machine a chance to make good."

"Well," answered the professor, slowly, "I confess that I suspect Folsom of being unfair in his stand against the milker. But as the herd is very valuable, I have feared to take a decided stand for the machine until I had the herdsman with me. So far, I have not been able to convert him."

"Tell me about the milker! What is there about it that would injure a cow's udder?"

"There is nothing about this machine that can work injury, so far as I can learn or see. The old inventors did have some queer ideas about how to draw or force milk from a cow's udder. They tried to make milkers that would force milk out between pressure rollers. They tried air pressure, and vacuum. None of these plans worked, and no milker was made that would do satisfactory milking until the inventors began to study nature."

"Just what do you mean?"

"The only perfectly natural way is the way of the calf's tongue, isn't it?"

"I suppose so."

"Of course it is. So no good milker ever was put on the market until one was made which closely imitated the pulsating suction of the calf's tongue. It is an alternate suction and relief—a vacuum pressure in series. Do you see?"

"Perfectly. Are all of the best of modern milking machines now made after this fashion?"

"Absolutely all of them. Those inventors who were too stubborn or too thick headed to learn their lessons have failed to make a successful milker, that's all."

"You have studied the matter quite deeply, it seems."

"Yes, Mr. James, I have; and I feel certain that the modern milker has come to stay in America. I should be quite proud to know that our State College had tried out this new invention so successfully and well that we could advise the dairymen of this great state to use the modern milker in their barns."

"Is the machine complicated and hard to manage?"

"No, the milker has but few parts. There is the vacuum pump and air chamber, the pulsator or vacuum relief, the teat cups, and the connecting hose and pipes. These are all the important parts. There is also the pressure gauge and a regulating screw.

"The pulsator is now used, in one form or other, on all successful milkers. It is the natural feature that I have explained to you. It gives that temporary relief from vacuum which is also a feature of both calf milking and hand milking. If this short relief is not given at each pulsation or vacuum pull, the cow's udder soon would become congested and swollen.

"It is this feature that has won success for the modern milker. Before the inventors got hold of this idea it was impossible to perfect a milker, but since they have bowed to nature and followed her plans, I believe that the modern milker will prove a friend in need to the thousands and thousands of dairy-men in this and other states."

"Good!" exclaimed Regent James. "You

have won me over to your side of the fence on this question. Now, I should like to see and talk to Clifford Davison."

"Very well. I will send for him, or you can find him in Machinery Hall if you care to go over."

"We will go there, by all means," retorted the regent.

They came upon Clifford down in the basement of the gas engine section of the building. He was taking apart an old engine, under the direction of Professor Hoyt, and was well greased and blackened; but he smiled happily when he saw Professor Pumphrey.

Regent James was introduced to him, and that gentleman went straight into the matter at hand by saying: "I understand that you are interested in milking machines."

Clifford stammered in surprise.

"Why—I—I am somewhat—but ——"

"Now," continued the regent, "I want to know if you think you can make that milker in the dairy barn work."

"I think I could," faltered Clifford, "but I'd rather not work in the dairy barn now."

"Are you afraid that you might fail?" asked Mr. James, shrewdly.

"No, sir! I am not afraid," returned Clifford, with some heat.

"Then why don't you want to take hold of it again, if you are so sure that you could run it?"

Professor Pumphrey spoke.

"I think that it is because he feels that he might meet with some difficulties besides the mere operation of the milker."

"Well," admitted the regent, "that might be so. But I would like to ask why you are so certain that the milker can be made to run satisfactorily. You understand that it would be a grave mistake if the college advised dairymen to buy these machines and they later proved of no practical value?"

"Yes," said Clifford, "I think I do understand that. I spoke so positively only because I was positive. I know what the matter is with the milker; it is all right, but the vacuum gauge is out of order. The pressure seems to be more than the fifteen pounds that it registers when it is working. I relieved the pressure by turning the little regulating

screw, and it milked even the two most nervous cows all right the night Bob Folsom fell down-stairs. He has not let the boys try the machine since, and I would rather not work in the barn with Bob so opposed to me personally and to the machine. I know he is a good herdsman and thinks he is doing everything for the best, but he is prejudiced against a milking machine, and no mistake."

"Ah!" exclaimed Mr. James, "I see a light. Thank you, my boy. You have helped make a friend for the modern milker. We shall see it win out yet."

Going back with Professor Pumphrey, he remarked: "I believe that young Davison is right. And if that boy can run that milking machine, it will be up to our herdsman to learn to do so or look for another place."

Professor Pumphrey did not greatly like the job of introducing Folsom more directly to the milking machine. First, Folsom must be led to overcome his prejudice and be made to see that the success of the milker at the college would mean a great triumph for himself as a mechanic. Folsom must also be made to see the future of the modern milker

through the eyes of Clifford and those others who had real hopes for its success. He must show the herdsman that he and all others at the college had the welfare of the herd at heart, but at the same time were broad enough to see that this fine college herd belonged to the state and not to any one at the barns.

As Professor Pumphrey turned these problems over in his mind he could not help but think that Folsom symbolized the rest of the state, or human nature in general; people had to see new inventions and new ideas demonstrated beyond any reasonable doubt before they would be willing to accept them without reservation.

It would take quite a long story to tell the able manner in which Professor Pumphrey succeeded in getting everybody, including Folsom, to coöperate in giving the mechanical milker a thorough trial. He succeeded in demonstrating that under proper conditions, conditions which were not too difficult for the average farmer to achieve, the milking machine was a practical success. But he always gave Clifford Davison as much credit for this happy outcome as any other person or factor.

CHAPTER XIV

CLIFFORD DIGS A DITCH

CLIFFORD enjoyed his work in the engineering department of the college. He was not a one-sided student, and so was able to take delight in all the class work at the college. Not only did he excel in agronomy and become keenly interested in the plant and seed studies, but he also proved to be no mean student of mechanical engineering. His good work with the milking machine had brought him to the attention of Professor Hoyt, and the instructor delighted to give Clifford extra time in Machinery Hall. Not only that, but the manner in which Clifford "took hold" of machinery, as though he loved their iron frames, their starting levers, their delicate valve mechanisms, and their various other parts, delighted the heart of the young instructor, who was himself keenly enthusiastic over power-producing machinery.

The tractor, or farm "puller," was especially

interesting. It was then little known among the farmers of the state, but was chiefly thought of as a great, cumbersome engine mounted on heavy wheels, and mainly used on the large ranches for pulling a dozen plows, or half as many grain harvesters, at one time.

After he had mastered the principles of steam engines and gasoline motors, Clifford spent much time with those tractors, of which there were two at the college. He loved horses, but as he handled and watched these mighty black, iron servants, he wondered if they would ever be able to do the work of the million farm teams, and other horses, that were in daily use at present. One day he asked Professor Hoyt:

"Do you think that the farm tractor will ever replace many horses?"

The instructor had been thinking many times about the same possibilities.

"Well, Clifford, that is hard to say. There are several objections which farmers in this state will have to such an outfit as this. The gang-plows and other implements would cost too much for the average farmer with his hundred and twenty acres of land."

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"Why don't they build them small enough to suit the average farmer?"

"Several companies are trying to do this, but whether they have already succeeded is a question. There is a company willing to send one of its lighter tractors to the college to be tried out. Do you think that the farmers around your own home, for instance, would be interested in such an experiment?"

"I'm sure they would, for many of them keep two or three teams all the year around, when one team could do all the work except at a few rush weeks. But what are the objections to the lighter tractor?"

"One objection is that there is not the necessary weight to give a heavy pulling power."

"But a team of horses weighing a ton and a half can pull a gang-plow; will a tractor have to be as light as that?"

"That is hardly a fair comparison, any more than a mechanical horse-power can be compared with a horse. However, I am deeply interested in this light tractor question, and will ask the regents to try out this new tractor which has been offered us."

"Like the milking machine!" and Clifford smiled.

"Yes, like the milking machine; and if we get this light farm puller here next week, we will give you a good chance to handle it and show what can be done with it, as a handy iron team, not too costly, and simple enough so that the farm boy can operate it. Such a machine will help keep the boy on the farm, the same as the perfection of the milker."

That night Clifford went to bed with another bright dream in his active mind. He saw thousands of farm boys of his age starting out on their day's work with farm pullers of iron instead of flesh and blood, that did not get tired, and that would work in heat and through fly time as easily as in the most perfect day in October. Not that he expected or wished to see the iron horses take the place of the living ones he had always been fond of, but to see the heavy, drudging work done easily by machinery was one of the most delightful sights to be imagined.

Clifford could imagine things very easily when it came to the point of helping his own farm folks with their hardest work. It had

come to be a part of his most pleasant thoughts that he might in some way give a good turn to the wheels that would not only lighten the hardest of the farm labor, but would make farm work more profitable. He was secretly very proud that he had helped with the milker. He was now resolved to do his best with the light tractor, that could be sold for a reasonable price, and would be a profitable investment for the average farmer on his farm of the average size.

When the light tractor came to the college, the most of the boys were inclined to poke fun at it. It certainly was not built on such pleasing lines as were the large tractors that had been used there before for class instruction. It had no such solid and majestic appearance as those great monsters which had had the field to themselves so far. To Clifford's mind, however, the question was not "How does it look?" but rather "What can it do?"

There was little that could be done just at that season, either by team or tractor. One piece of work, though, was found to prove out the little puller in the winter. There was a

good covering of snow on the ground, which had prevented hard freezing of the surface. Because of this a class of sturdy young fellows had kept on more or less steadily at a job of draining which had been started late in fall, down in a swamp on the college farm. Clifford had been much interested in the use of levels and watching the work connected with tiling and had been over at the swamp many times to watch the boys, although he was not taking the work in this class this term.

When the deep trench for the main tile was being dug, a manufacturer of ditching machinery shipped to the college one of the light excavating machines or plows, which was to be demonstrated on this marsh. It was usually drawn by four horses and could take out the dirt at a good rate. But down in the swamp the teams floundered about badly ; and it was not deemed wise to put them at work on the ditcher, as only horses experienced in this kind of work could proceed safely at this season of the year. So the ditching was allowed to lag.

There were reasons, though, why the tile

laying ought to be done before spring. The most important was that there usually was so much water in the marsh in the spring that no tile could possibly be laid. Some one suggested that the big tractor would pull the ditcher and bring the work along faster. It was agreed, however, that the ground was not yet frozen hard enough to bear the great weight of the tractor; that its wheels would bury themselves deeply in the muck bed. Then it was that Clifford saw his chance to show what his little farm puller could do. He had begun to call it *his* tractor.

"No, Clifford, I am afraid there is no use thinking about it," declared Professor Hoyt. "It has not enough power to pull that ditcher, if I am any judge."

"But let me try it. I'm sure that no harm could come of it, for the swamp is now frozen hard enough to bear the weight of the tractor. I tried it yesterday when I pulled that load of poles up to the barn with it."

"Well, all right. Hitch your little puller to a star, or to a ditcher if you must. But be prepared to stand a good laugh from the boys if you find that you can't move that ditcher."

I must leave for a few days, so I can't help you out in any way."

"All right, and thank you," said Clifford. "Not for going away, but for letting me try out my pet. As for laughs, we must expect them once in a while, for the puller has been something of a joke ever since it was sent to the college; I'm glad of this chance to give it a fair trial."

"It doesn't look as if you were going to have that chance; there is so little it can do until spring comes. But we are glad to trust you with any machine here."

"Thank you again. I am going to try to pull that ditcher this very afternoon."

Clifford had some doubt himself as to whether the light tractor would be able to move the ditcher through the sticky mud, and the boys greeted him with a shout of derision when they heard the "put, put" of his tractor motor and saw him coming to hitch on to the ditcher. It did not seem that the wheels of the light puller could grip the ground hard enough to do much pulling.

As he drew up beside the ditcher at the edge of the swamp, the boys gathered around.

"What's up?" asked the big foreman of the ditching crew.

"I've come down to pull the ditcher," announced Clifford.

"Why, man! you can't do that in this marsh. That tractor will go down to the hubs before it gets four rods."

"How much do you weigh?" asked Clifford, smiling.

"I weigh nearly two hundred, if that has anything to do with the price of gasoline," answered the foreman.

"Can you walk safely across that swamp?"

"Of course I can."

"Then this tractor can, for she has a pressure of only fourteen pounds to the square inch, while a man of your weight has a surface pressure of more than that, unless your feet are bigger than they look."

The boys laughed, but the engineer, who came up just then, remarked: "Davison is right, just the same. Those tractor wheels have no more than half the weight per square inch of surface that a draft horse's feet have. Go to it, boy, if you like. No harm done in trying, anyway."

So Clifford "hitched" the tractor to the ditcher and began to pull, but the engine "died." The draft was so heavy that it resulted in bringing everything to a dead stop. This did not surprise Clifford, but seemed to afford the doubters a good deal of satisfaction.

"She's checked up too high," jeered one of the youngest of the fellows.

"Better trade her off for one that won't balk," advised another.

Clifford said nothing. He had noticed that the ditcher had been allowed to settle in the muck, but believed that with care he could pull it out from there without the aid of shovels. It would not have been discouraging even though he had been obliged to dig it out for a fair start, but he was too proud to ask for help from any of the fellows, who had plainly come to scoff.

This time he took care to give the engine a good start,—in fact, a racing start,—then slowly and gradually set the clutch. He was so slow about it that it did look as though the little puller never would be able to do what its hopeful driver believed it could do.

Then he felt it begin to "take" its load and settle to its work.

"She'll never move!" declared one of the boys, positively.

"That's what a lot of old fogies told Robert Fulton, just about a hundred years ago," retorted Clifford; and the laugh was turned as the tractor slowly heaved the ditcher out of the mire.

"She won't go far, though," insisted another, and he was laughed at in turn, for the doughty little puller kept right on along the entire line of the ditch, the ditcher throwing out more mud and gravel than the entire lot of fellows could have done if they had worked "like fiends"—which they had not. The iron horse had won.

The cheers of the class brought a hundred other students down to the swamp, and if the builder of the little farm puller could have been there, he would have been certain that his machine had advertised itself better than a hundred agents could have done by mere talk.

While Clifford smiled happily as he kept his tractor moving jauntily along.

CHAPTER XV

THE STORY OF THE TWINE BINDER

IN the machinery building Clifford found many fascinating things to study besides the motors and the engines. One day he and Willis became particularly interested in the little knotter of the self-binder.

"Are these all alike on all the binders of the world?" asked Willis.

"Yes," replied Professor Hoyt. "They are practically all alike. Do you know that this wonderful, simple, little twine knotter was invented by a man in this state, and that the first bundle of grain was bound by twine not very far from here, and that the man who made the first twine binder is still living?"

"No, we didn't. Won't you tell us about him and his knotter?"

"To-morrow afternoon we will go over to the State Historical Museum to examine this man's first twine knotter. I am sure that you

will be interested. The inventor is so quiet and modest that few outside of his circle of friends have heard about him and his great invention."

The three roommates went the next afternoon with Professor Hoyt and saw the Indian relics, battle flags, and many curious old tools, weapons, and vehicles. There were so many rooms filled with interesting things that Professor Hoyt knew they could not possibly see all that day, so he took them from the carriage of Daniel Webster, the powder horn of Daniel Boone, and the spy glass used by George Washington, and led them to the glass case where the first device that ever tied a knot in a string was seen, with the twine firmly held in its fingers of steel.

"My, there isn't much of it, is there?" remarked Willis. "I don't see how they make out that this is such a great invention."

Professor Hoyt smiled.

"It isn't always the amount of material in a certain thing that makes it great. It is not what this device weighs or measures that makes it one of the greatest inventions of the world; but rather the fact that it has done

the harvest work of millions of men and has been worth billions of dollars to the farmers of this world in the few years since it was first put to work on grain harvesters."

"When was that?"

"It was in the winter of 1876 when John F. Appleby and his partners, Charles H. Parker and Gustavus Stone, built the first twine binder in the world. Mr. Appleby was the real builder of the machine, and he thought it out all alone up in the garret of Parker and Stone's shop."

"How did he happen to find out how to make the little knotter?" Willis was becoming very much interested.

"Well, that is a longer story. When John Appleby was a boy, he used to help bind grain by hand in the harvest fields. Now, if you ever bound bundles across one end of a field that the binder had missed, or when the driver had carelessly let the twine run out, you can imagine what a heavy task it was to bind up a large field of grain by hand. How many of you can make a spliced band of the straw and bind a sheaf of grain into a neat and tight bundle?"

Clifford was the only one who confessed to being able to bind a bundle so that it would stay bound through the handling of shocking, stacking, and threshing. In one generation of farming, the art of grain binding has become pretty well forgotten.

"If you had bound grain hour after hour in the scorching sun, you would understand better how John Appleby happened to dream about a machine that would tie up the grain sheaves. He did not go to sleep, though, while he dreamed about his wonderful machine, but remained very wide awake indeed. He was able, when eighteen years of age, to invent a device that looked like the bill of a bird on a long neck that would twist a cord around itself, open the bill, close down again upon the cord, and then pull it through the twisted loop. This was in 1858, and this knotter that you see here in the case is the first perfect one he made. It was made at a gun shop, and there is no doubt whatever that it is the first mechanical knotter ever made in the world. The fact is no one could ever make another as good. It is the same kind as that used upon a million binders that tie

the billions of sheaves every harvest season. It was called the 'bird-bill' knotter."

"But you say that he made the first binder in 1876."

"Yes; it was not until eighteen years afterward that he set his knotter at work."

"Why did he wait so long?"

"He had not succeeded in planning a complete harvester when the Civil War occurred, for he was a poor boy, with no money to spend for the perfection of an invention. He enlisted in the army and served through the war. After the close of the great war, there was a stir in the field of invention caused by the perfecting of the wire binder. This was first thought out by Charles Withington, who also lived in this state, and whose binder was eagerly seized upon by the great reaper manufacturers of the country, such as Deering, McCormick, and others."

"The wire binders didn't work, did they?" asked Clifford.

"Yes, they bound the sheaves all right; very well, in fact."

"Then why aren't they used now?"

"I'm coming to that. In 1874, Mr. Ap-

pleby, with his two partners in the little reaper shop, made an excellent wire binder. One forenoon it had been successfully used in the grain field of Mr. John Dates, who lived near the town, out on the old-time stage route to the capital. It worked so well that the three partners were highly pleased; and at noon they started home saying they would be back after dinner to cut some more grain. They were greatly surprised when Mr. Dates told them that he did not want any more grain bound by their machine, even if they did the work for nothing. 'Your binder works all right,' the farmer told them, 'but the wire will kill my cows and horses; I don't want it in the straw.'

"This discouraged the three partners. They returned home and met at the shop after dinner.

" 'Well,' inquired Mr. Appleby, 'what are we going to do?'

"Said Mr. Parker: 'I'll be dashed if I will make binders that farmers won't use.'

"Then and there Mr. Appleby declared:

" 'I can make a twine binder.' But the other men said, 'No, we have spent money enough.'

"When this and one more harvest had passed, however, there were so many complaints from the farmers and the flour mill men that the three partners again decided to work together at building the new twine binder."

Clifford, who had been a silent listener all this time, asked :

"Did they use this knotter on their wire binder?"

"Oh, no," explained Professor Hoyt. "The wire binder did not need a knotting device. It only made a tight twist in the wire. The twine knotter was a much more difficult problem to solve, for it had to tie a real knot. And without the machinery to run it the knotter could not be used. It must be worked by the harvester and with the harvester. A frame called the U frame was made by Mr. Appleby. Elevators were planned to carry the grain from the reaper platform to the binder. Packers kept the bundle in shape. A needle was made to carry the twine and also to press the bundle tight before the band was tied. A tripping device made the bundles larger or smaller as

a spring was set down by a screw. All these parts received power from one gear wheel working from a large center drive wheel. The sickle and reel were the same as used on reapers at that time.

"This first binder was a very heavy and clumsy affair. But I feel like taking off my hat whenever I see a light harvester working now in the fields, and I would most certainly have taken off my hat to this first self-binder. I did not see it, but my father saw it make its trial trip around a rye field. He came home and told my mother about how 'perfectly and cunningly' it worked, 'not missing a bundle.' He also told how men went wild with excitement over this new wonder of the world; how they ran hatless around the field after the machine, some of them cheering, others merely yelling, and some with tears running down their faces. He told, too, of one rival inventor who had been working desperately for months upon another plan. When he saw the Appleby machine tying the grain neatly in bundles that were thrown out in long rows around the field, he walked out of the field as though in

a trance, saying: 'He's got it!' over and over."

"Then, I suppose everybody tried to get a machine right away," remarked Willis. "There must have been a mad scramble for this new binder."

"No, there was not, strange as it may seem. Mr. Appleby and his partners made three more machines that year. But you must remember that there were hundreds of wire binders then in use, and that the great reaper and harvester companies had more unsold, which they wanted to sell. Because of this, the twine binder was not in favor with these large and wealthy companies. The fact is, there were three years of 'war' between the twine and the wire binders.

"The farmers and the millers and the threshing machine men all took the side of the twine binder and declared against the wire binder, which killed live stock, caused accidents to the insides of their threshers, and caused sparks and explosions and fires in the mills when bits of wire were ground between the stones. In 1878 the Appleby, Parker, and Stone Company built 115 of the new

machines, and the first binder ever sold was shipped from this little shop in May, that year, to Travis County, Texas. I have seen the letter that the Texas threshermen, who threshed that grain, sent to the twine binder manufacturers. The crickets and grasshoppers did not eat and loosen the bands, as the wire binder people had declared they would. And what is more, the Deering firm sent men out into the field to watch the work of the twine binder. The next year this great firm asked the little twine binder company for the right to make twine binders, too. It secured the right to use the patent Appleby binder for six dollars on each machine sold, and three years afterward \$35,000 was paid for the same right by the McCormick Company. And thus were laid the foundations for the great International Harvester Company."

CHAPTER XVI

A PRANK NOT WELL TAKEN

"OH, Sport!" called Peter to any one in general, and nobody in particular as he burst into the rooms at Mrs. Miggles'.

"Yes," answered Clifford from the clothes closet, where he was burrowing after a clean pair of socks about as a shepherd dog burrows after a gopher, "what did you want?"

"Just to see who was IT!"

"To see who was what?"

"To see who was enough of a sport to answer to the name," said Peter, grinning. "Are you game?"

"I see you've got a hen on," said Clifford, coming out of the clothes pile backwards, with one gray and one brown sock clutched in his hands. "Now, tell me what you're trying to hatch out."

"Well, you know we did Speers a good turn the other night. I believe that Speers would escort me to the Short Course ball."

"What in time do you need an escort for? If you want to go, why don't you go? You have the pasteboard to show at the door!"

"I want to go as Miss Prudence Prunelle, a 'girl from home' that Mr. Bud Speers wishes all the fellows to meet. Now, do you get the idea?"

"Pete, you're crazy! They'd mob you when they found out, and they'd find out in less time than it takes to crank that dollar watch of yours. Don't do it!"

Nevertheless, Clifford began to grin, too. Then he began to chuckle with laughter. Then they both began to yell with mirth as the picture of the dance with the sweetly smiling Peter led across the floor by Bud Speers and introduced as his friend, Miss Prunelle, took possession of their minds. In a few minutes both were planning how it might possibly be accomplished.

"But you couldn't dress to look the part," objected Clifford. "You look about as girlish as a Clydesdale colt. Every make-up man in town would run if we showed him the job."

"Say, you ought to have seen me when I



"I'LL SEE THAT YOU GET IN"

took a girl's part in a school play, out home," enthused Peter. "We were short of real girls, so I was fixed up as 'Nancy,' and they said it was a hit. That's what made me think of this stunt, and I'm going to put it up to Bud Speers. If he will take me, I will get fixed up. As you are ticket taker at the door, you will let us sweep in as Mr. Speers and his friend Prudence. Then we'll execute a few little steps, I'll be introduced to a fellow or two, have a number or two on the floor, and soon will make my exit amid the clashing cymbals!"

"Cæsar! Kaiser! What a bird of an imagination! You'll make your exit all right, for they'll get your number in a jiffy, and then on with the executioners. However, when you called for a sport, I answered, so I'll see that you get in through the door if they don't pull you down the steps with a hay hook before you get to it."

That night there was a council of the plotters at Bud Speers' room, and the result was that Bud not only agreed to take "Prudence Prunelle" to the Short Course ball, but as he had had some previous experience in getting

ready for amateur theatricals, he agreed to rig up Lady Prudence for the dance.

No more was said to Clifford, but it was understood that he should be ready to pass the couple through into the main room when they should come to the door of the gymnasium on the next Friday evening, the night of the ball.

At half-past eight, while the jolly crowd was surging through the entrance where Clifford was so busy that he scarcely had time to see the faces of those who tendered him the entrance cards, Bud Speers and his "lady" came up. Clifford gave her one glance, and then dropped his bunch of tickets.

There was a strapping country girl with Speers who almost upset Clifford entirely by the melting smile she gave him. Flaming cheeks, the blackest of penciled eyebrows, a filmy lace bonnet that might have done duty at some ball a generation past, a gorgeous waist that strained at every button, skirt hanging horribly crooked, all these features of Miss Prunelle's make-up seemed to Clifford to be too obvious for any one to miss.

He expected that the strange couple would

be challenged and thrown out at once; but on they went, right in among the crowd. Bud had come bareheaded, in a cab, and there were no wraps to be cared for. A few remarks came to Clifford's ears: "Who's Bud's friend?" "Cornfed Western!" "Oh, Gosh! Look at the feet!" One began to hum:

"Here comes the bride:
Get on to her stride."

But no one seemed to guess. Bud was carrying his part well, with evident enjoyment. He introduced "My friend, Miss Prunelle" right and left among the boys, not a few of whom were quite taken with her smiles of pleased friendliness, and clamored for a place on her card for dances.

The Short Course ball was the one social event of the Short Course year that received the official sanction of the college. The dean and almost the entire faculty were sure to be there, but the Long Course students were supposed to be strictly barred. In former years the dance was open to the University, but a few of the "social lights" of the regular students usually had taken possession of the dance, while the

less skilled farm boys had to stand by. Thus when Clifford permitted Bud Speers to enter the dance room he not only broke a very strict rule of the dean's, but he laid himself open to trouble because of Peter and his costume.

The dance was held on the magnificent gymnasium floor of the girls' Union Building, which had been secured for the occasion, and large as the floor was, it was soon crowded to overflowing by the jolly Short Course boys and their no less lively partners. It was not a crowd where dress suits would have been in place, and it is possible that all the fine rules of etiquette were not observed, but it was a good, clean, jovial gathering in which all who liked to dance could have a very pleasant evening. Those like Clifford, who were almost too bashful to dance, or who had scruples against that form of amusement, were present to look on or to help in the arrangements.

Clifford felt certain that the first dance of Miss Prunelle would be her last. It was with considerable apprehension that he noticed Dean Hunter approach a group where Miss Prunelle was being introduced, and when the young lady was presented to the dean him-

self by the imperturbable Bud, Clifford was ready to hide himself. But the dean gravely nodded his acknowledgments and went on his ponderous way to discuss a scientific question with one of the chemistry professors.

After Bud had danced several times with Miss Prunelle, who acquitted herself fairly well, he gave her up to the company of a few who had been most insistent upon dances.

One of these was "Owley" Sanders, who affected a short-sightedness which would have passed unnoticed if he had not persisted in hanging his great eye-glasses on a large hook high up on his chest. Any attempt at posing is quickly detected by a hearty lot of fellows such as attended the College of Agriculture. Sanders was given to posing, and to a display of the fact that his father was the wealthiest farmer in his home county, and the assemblyman from his district. Even the young ladies whom Sanders met had to be given this information in one form or another before he had known them longer than a few minutes.

For this reason, Sanders led rather a lonesome life at the school. "Owley" would have liked to be popular, but had such an enlarged

sense of his own importance that he was exceedingly unpopular, not only among his classmates, but with the young ladies of his acquaintance.

To-night he was flattered by the smiles of Miss Prunelle. He had evidently been singled out from the rest of the fellows by the buxom stranger from up the state. This was one time when he had been preferred, and even if she was not as delicately slender and petite as some of the town girls who had turned him down before, she was at least pleasant and witty. Her low, repressed voice charmed him. After sitting out one dance in the corner together, during which time he had told her practically his whole life history and had begun to call her Prudence, they advanced to the floor for the next number together.

Groups of the fellows had begun to get their heads together by this time. The girls were giggling and staring, and Clifford saw that the exposure must come soon. He sought Bud Speers, who had taken refuge in the ice-cream booth.

"Say, Bud, if you don't get Peter out of

here soon there'll be the deuce to pay. The jig's up now, and if Dean Hunter ever finds out, well, it's simply good-night!"

Bud also was beginning to see the possibilities of the situation.

"I told him to be careful, but I guess he's lost his head. Judging from the looks of your dean, I'd hate to get into an argument with him on this subject. And he's a deacon down at the Baptist church, too!"

Bud could not get Miss Prudence away, for she was dancing with Owley, so he decided to wait out the dance before leaving with his jovial partner. But fate was against the jokers, for Prudence Prunelle's hair came down; worse than that, it left Peter's head entirely. In some manner a stray lock of her already loosened tresses had become caught in the eye-glass hook on Sanders' shoulder. As they turned an especially difficult step the tug of that wisp of hair brought the whole mass down from under the lace bonnet and it hung like an untidy rat's nest down the front of Owley's white vest. Prudence turned into Peter in an instant, and made for the exit at a fast lope, with Bud at his heels. Clifford

saw that the crowd was looking in his direction and he soon found another door leading away from the scene. The orchestra stopped, and there was nothing for the dancers to do except stare at the tall fellow in the middle of the floor who was clawing at a mass of hair that seemed to be fastened to his coat. That was what Clifford saw in a last look over his shoulder.

Surprise finally turned to a shriek of mirth from the girls and a roar of delight from the boys. Sanders had been quite insufferable throughout the entire school year, and so had little sympathy from the crowd. He turned all the colors of surprise, vexation, and deep anger, finally bolting out of the dance hall. How the Short Course ball ended there were at least four young men of the college who never knew.

At eleven o'clock Peter came to his room.

"Oh, Sport!" he called. This time Clifford did not answer, though he was present.

"Well, what do you think?" asked Peter, with his usual happy grin. The paint and the pencil markings had not yet been entirely removed, and the grin was so grotesque and

funny that Clifford could not keep a straight face, in spite of his rather grim frame of mind. As a matter of fact, he was extremely vexed with Peter for having carried a perfectly good joke too far, and possibly gotten them all into serious trouble. Finally yielding to his mirth and forgetting his anger for a minute, Clifford laughed till the tears streamed down his face.

"Oh, Cliff!" gasped Peter, "he told me that he believed I was going to know and understand him better than any one else had ever done. I said that I was sure of it!" here Peter gave way to his mirth. "Then he told me there was really no one at the college who really understood how important the work of the Sanders family was in their home county. I certainly had him going when that confounded thing came off. I'm rather glad of it, though, for I don't know what Owley might not have said if we sat out another dance. Well, it's all over now, anyhow, and it sure was one grand success!"

"It was a success, that's sure, from one way of looking at it. But I'm not quite so certain that it is all over with. I do wish you had been a little more careful. Even if you didn't

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care about yourself you might have had regard for the rest of us."

There was a sharpness in Clifford's voice that made Peter stare. Then he whistled to express his amazement.

"Be a sport, Cliff! We live only once, and a fellow's got to have some fun to get even with the world."

"Do you realize that we'll probably be expelled from school if the dean wants to start a fuss about it? And Owley's dad is in the legislature, and with the trouble the college is having down at the capitol the dean is pretty likely to listen to an assemblyman's whisper. I know what I'd do if I were Owley."

"I'd beat it toward home and mamma!" Peter was again overcome at the recollection of Owley's discomfiture, and fairly writhed with laughter.

But Clifford had at last worked himself up to that state of feeling where the humor of the situation no longer appealed to him. He was in a mild panic lest he be sent home in disgrace, thus sending all his brilliant plans toppling. It was unfortunate that he did not have Peter's happy-go-lucky disposition.

"If the dean takes this up you won't think it so funny!" he exclaimed, out of patience with Peter.

"What's eating you, Cliff? Don't get a grouch on, and spoil it all. The pitcher's broken and the milk spilled, but what of it? We may have been a little rough on Owley, for he won't hear the last of Prudence Prunelle's beautiful hair for a good, long time, but Bud says Owley had it coming sooner or later, anyway. It may be just the lesson he needed."

"It was a pretty raw deal, and I'm rather sorry I helped in it."

"That's a nice way to talk! Buck up, Cliff, and be a real sport. The trouble with you is, you take life too all-fired seriously. It's happy fellows like us who get the most out of life, and we get just as far in the end. Don't be a perpetual wet blanket!"

"I'm rather afraid of the faculty, nevertheless," persisted Clifford. "By ten o'clock tomorrow the dean and all the other profs will know the interesting details of to-night's happenings, with frills thrown in for good measure. And you know the kind of man Dean Hunter

is; there isn't a more solid and brainy man when it comes to the class-room work, but it's so long ago since he's been a boy that he couldn't see a joke if he fell over it. One of the Long Course fellows was talking about that just the other day. When he learns that he was introduced to Miss Prunelle and never saw the difference he will be hopping mad."

Peter was getting rather tired of this talk.

"Shucks! I'm going to bed and let the morrow take care of itself. First thing you know, we'll quarrel. I wonder what's keeping Willis?"

"Here I am," was the cheery response. Peter and Clifford turned to find Willis standing in the doorway, all spick and span in the brand new suit he had bought especially for the dance.

Peter overwhelmed him with questions regarding the dance.

"If I were you fellows I should worry," was the consoling reply. "When Dean Hunter learned the details of your little prank he saw red for a minute, and the fellows tell me he's ordered the case to the Student Court, and

that he promised Owley you fellows should be sent home."

This was a damper, indeed! Peter took it easily, and soon was fast asleep, but Clifford, haunted by visions of impending disgrace, slept only very lightly. He wished that he had never met Peter.

All of which goes to show that perhaps Dean Hunter wasn't the only one without a sufficient sense of humor.

CHAPTER XVII

BEFORE THE STUDENT COURT

CLIFFORD rose the next morning, considerably troubled by forebodings regarding the outcome of the Prudence Prunelle prank. These forebodings were not in the least allayed when he and Willis met Dean Hunter on their way to class. The dean returned their cheery "good-morning," it is true, but he passed on so curtly and frigidly that Clifford almost shivered.

"Weather chilly, with storms threatening," declared Willis, in his most formal manner.

"The offended dignity of a big man passeth understanding," was Clifford's contribution.

"I shouldn't worry, though, if I were you," encouraged Willis. "If the dean and Owley ever get up before the Student Court your case is as good as won."

"How do you make that out?"

"Wait and see," was all that Willis would vouchsafe.

That noon when Clifford returned to his boarding-house, Peter threw a legal looking document at him. Stripped of its ponderous phrases, it was a summons for Clifford and Peter to appear the following Friday at a session of the Student Court. The regents of the University charged them with conspiracy to hurt the fair name of the college and with conduct unbecoming a gentleman. Dean Hunter was the signed complainant.

"They'll draw and quarter you," remarked Willis cheerfully to the crestfallen pair.

"Shut up," replied Clifford crossly. "This isn't anything to laugh about."

"Might as well laugh and be merry, for tomorrow we die anyway," defended Willis.

"That's what I say," declared Peter. "No use going around with a long face. Don't be a blooming pessimist, Clifford."

"If it weren't for that mistaken sense of humor of yours, we shouldn't be in this predicament," returned Clifford, still cross. "This is a nice mess for us to be in. Instead of grinning like an idiot over this, you'd better get busy and do something about it."

Peter was rather surprised at this outburst.

Usually Clifford was the best fellow in the world to get along with. To-day he was plainly out of sorts, and Peter had a quick temper, too. Perhaps his reply was rather uncalled for, but he responded tartly :

“ Don’t be a cry baby and a quitter, Cliff ! Buck up, and smile as though you had just been given a thousand dollars ! ”

Clifford did not continue the argument, but it was plain to Willis that a sudden coldness had sprung up between the friends.

The Student Court, before which Bud, Peter and Clifford were to be tried, was a unique institution in this progressive university. Several years before, the students had made representations to the regents declaring that they were a body of responsible young men between eighteen and twenty-five years of age, and that it was depressing to their dignity and an insult to their years to be ruled so absolutely by the faculty. Why couldn’t they govern themselves in all cases of discipline ?

The regents were doubtful, but consented. Accordingly, a system of student government was worked out, which succeeded admirably. This student government consisted of two

parts. One was a combination of legislative and executive, called the Student Conference. This Conference was elected from among the student body, and made the rules and laws under which the students were required to conduct themselves. Assisting it was a faculty advisory committee with no voting power.

The president of this Student Conference was also the chief executive of the student body. The judicial function of the body was vested in a special Student Court, elected by the Conference from among its own members. It was before this Student Court of nine members that Clifford and his companions in trouble were to be tried.

A trial before the Student Court was carried on very much like a trial before a regular court of law. One of the court members presided as chief justice, and he had appointed a student from the law school to prosecute the case for the regents. Bud Speers knew another law student quite well, who consented to carry the case for the defendants.

Clifford, as has already been seen, took the matter most seriously to heart. His short term of college life meant so much to him

that he bitterly begrudged any subtraction from that time and work. The more he thought about it the more resentful he felt ; for he could not see any harm in the prank. For want of any better objective, this resentment was largely directed at Peter for ever persuading him to become involved in the affair. Bud Speers, who, as an upper classman in the University, had the most to lose in a case of this sort, carried the trial off as a nuisance that would probably develop into a farce. He refused to show any worry openly.

The law student who was to defend them, and Clifford, Peter, Willis, Speers and one or two others, met at Bud's room that night to thresh over the various angles of the case. That their active brains worked to good purpose was shown at the trial later.

Friday came soon enough, and brought with it anxious moments for the defendants. For Dean Hunter appeared in person to testify against them, and Owley Sanders was working venomously to achieve revenge.

The trial was held at the practice forum of the law building, and the space reserved for spectators was jammed with students who

seemed to regard the whole affair as one huge joke. They could not take it seriously, and the spectacle of the portly Dean Hunter sitting soberly by and discussing the case ponderously, albeit in an undertone, with the prosecuting attorney, excited the risibilities of more than one. The good dean was clearly more at home in the scientific laboratory than at this kind of work.

The chief justice rapped for order, and Dean Hunter was sworn in as the first witness called by the prosecution. The prosecuting attorney wasted no time in questioning him.

"You attended the Short Course dance the night of the 10th?"

"Yes."

"You are personally acquainted with the defendants in this case?"

"Yes."

"You met Clifford Davison at the dance?"

"Yes."

"Under what circumstances did you meet him?"

"He took my ticket at the door."

"Was Clifford Davison the only one taking tickets?"

"So far as I know, yes."

"In other words, nobody could have been admitted to the dance without Clifford's permission?"

"Yes."

"You met Robert Speers at the dance, also, did you not?"

"Yes."

"Is Speers enrolled in the College of Agriculture?"

"He is not."

"Isn't it true that only members of the faculty and Short Course students were to be admitted to this dance?"

"Yes."

"In other words, Mr. Speers had no real right to be present at this dance?"

"No sir."

"Did you meet Peter Todd at this dance?"

"Yes."

"Will you please tell us briefly the circumstance under which you met Todd?"

"I was making the rounds of the dance floor greeting the boys and their partners, when Mr. Speers stepped up to me and said he wished I could meet his friend, Miss

Prunelle. This proved to be Mr. Todd disguised as a young woman, and so clever was his make-up that it deceived me temporarily."

At this point in the testimony there was a subdued outburst of laughter which was immediately quelled by the chief justice. Dean Hunter flushed with embarrassment and anger.

"This then would seem to be the case against the boys: Clifford Davison, as ticket taker, illegally admitted Bud Speers, who had no right to be present; furthermore, Clifford conspired to bring disgrace upon the college and humiliation upon the Short Course by admitting Peter Todd with said Speers, said Todd masquerading as a young woman."

"We object," declared the attorney for the defense, "to the words 'disgrace,' 'conspired,' and 'humiliation,' and demand that they be stricken from the records."

"Will the prosecuting attorney please restate his question," decided the chief justice.

"To your knowledge, Clifford Davison admitted Mr. Speers and Mr. Todd to the dance; Mr. Speers, as a four year student, had no right to the dance floor; and Mr. Todd was dressed as a young woman?"

"Yes."

"That will be all."

The law student for the defense now cross-examined the dean.

"What has been Clifford Davison's record, up to the present, in the Short Course, both as regards scholarship and deportment?"

"Quite uniformly satisfactory, I believe."

"The same would apply to Peter Todd, would it not?"

"Yes, although to a lesser extent."

"Did you, of your own observation, notice whether Todd conducted himself, the night of the dance, other than as a gentleman—ahem—lady?"

"He was masquerading as a woman and would have had many opportunities for reprehensible conduct."

"Your honor, I object to the tone of this answer. We are dealing with facts, not opinions. I asked whether the dean himself saw any conduct on the part of Todd that was unseemly."

"The dean will restate his answer," ruled the court.

"He was masquerading as a woman."

"Is there any rule of the faculty or of the Student Conference which forbids a student of the College of Agriculture masquerading as a woman?"

The dean, sensing the defense that was being built up, flushed with anger. He controlled his temper with obvious difficulty.

"Not to my knowledge," he finally admitted.

"In other words, the defendants had no reason to believe that their little practical joke, even if detected, would get them into trouble."

"The whole affair was vulgar and disgraceful in the extreme," floundered the dean.

"Answer my question, please."

"Taking it for granted that there were only 'gentlemen' attending the college, we naturally made no provision to cover this case."

"I will restate my question. By the mere fact of masquerading as a woman, Todd committed no offense that was punishable in itself."

"No."

The dean's reluctant admission brought cheers from the audience and a smile of satisfaction from the attorney for the defense.

"That will be all."

"Owley" Sanders was called next. He sat up menacingly in the witness chair, and it was plain to all observers that anger and revenge rankled in his heart. After a few preliminary questions he was asked :

"How long have you known defendant, Peter Todd ?"

"I have met him only once."

"The night of the Short Course dance, was it not ?"

"Yes."

A subdued snicker from somewhere in the crowd caused Owley to glance about angrily.

"What was the nature of your meeting ? Give us the facts very briefly."

"I was attending the Short Course dance and having a very fine time. Bud Speers, who I happened to know, stepped up to me and asked if I would not like to meet his partner. Wishing to be polite, I said I would be delighted, and he introduced me to his so-called friend, Prudence Prunelle. During one of our dances Miss Prunelle's hair caught on the spectacle case on my coat, and imagine my situation when the hair came off and revealed a boy's head !"

"Had you especially observed the so-called Miss Prunelle's conduct before that event?"

"Yes. I had noticed her dancing several times in what I thought was a rather vulgar manner."

"You say that you observed Miss Prunelle dancing in a rather vulgar manner; you testified that Speers introduced you to her. Are you willing to swear that you did not ask Speers to introduce you to Miss Prunelle?"

Sanders hung his head.

"Perhaps I did!"

"Her conduct was not so objectionable then but that you desired the pleasure of her society."

"Perhaps not."

"Your honor," declared the young lawyer, "I wish you would note the discrepancy in the witness' testimony. He retracts the statement that he saw Miss Prunelle engaged in vulgar dancing." Then turning to Owley he asked again:

"You made love to Miss Prunelle, did you not?"

The prosecuting attorney objected vehemently.

"Your honor, we object. The question is not relevant."

"What does the defense wish to prove by this question?" inquired his honor.

"Merely that Sanders, instead of being picked upon as the victim of a practical joke, paid his attentions so closely to Miss Prunelle that it was almost impossible to shake him."

"That's not true!" burst out the angry Owley, while the whole court room tittered. Even his honor smiled.

"The question is relevant. Witness must answer."

"Did you make love to Miss Prunelle?"

"I did not."

"Did you not tell Miss Prunelle that she was the only girl who ever understood you?"

Owley reddened, and hesitated.

"I don't remember."

"And that your father was the most important man in the legislature?"

"I don't remember."

"And that she danced divinely?"

Owley glanced helplessly at his attorney, who immediately objected.

"Objection sustained," ruled the court,

with a smile. The whole court room was grinning, for the trial was rapidly developing into a farce.

Willis Winthrop was next called. He smiled confidently as he took the stand and gave his testimony with evident delight.

"You room with Peter Todd and Clifford Davison?"

"Yes."

"You heard them plan this impersonation of a girl?"

"I did."

"Do you know that they carried out their plans as intended?"

"They carried them out exactly as planned, except that they had not intended to play a practical joke on Sanders. His own persistence alone is responsible for that."

The attorney for the defense now asked:

"Winthrop, since you knew what these boys were planning, why did you not try to stop them, as you knew they would bring discredit upon themselves and upon the college."

"I did not see how the college or the boys would be discredited."

"What!" exclaimed the prosecution. "Do you not think that by posing as a girl and mingling with the girls at the dance, there would be disgrace brought upon us?"

"I happen to know that Todd kept strictly with the boys."

Clifford, Peter and Speers were called in turn, but their testimony was so similar to that already given that we will not repeat it here. Beyond proving that Speers was at the dance contrary to University regulations and that Todd was masquerading as a girl, the prosecution proved nothing. On the other hand, the whole case was made to appear ridiculous.

Dean Hunter grew more and more uncomfortable as the trial progressed. The humor of the situation was beginning to penetrate, and he was angry at being involved in the farce. When the last witness had been called and excused he rose and addressed the court.

"Your honor, this is the first trial of your Student Court that I have ever attended. I wish to congratulate you upon the fairness with which this trial was conducted. It has changed my whole attitude toward the case.

At first, I was naturally provoked at the prank of the boys, but as far as I can make out now, it was intended as an innocent frolic, and carried out as such. I still believe that the joke was in exceedingly bad taste, but perhaps I have forgotten that I was young once myself, so I will try not to judge them too severely. I wish to say here and now if the aspects of this case had not been grossly misrepresented to me by Sanders that we would never have brought action against the boys. In behalf of the board of regents I ask that the case be dismissed, and that Sanders be given a reprimand."

By that one open-hearted acknowledgment, Dean Hunter proved once more that he was a man big enough to be trusted with the responsibilities of such a large institution as the College of Agriculture.

CHAPTER XVIII

A GOOD MEETING AND GOOD LUCK

"Come up to Dean Hunter's room with me, Clifford," said Professor Creighton one afternoon. "He would like to hear more about your state association of grain growers."

"My association? Why, I haven't any association!" said Clifford, in amazement.

"Well, then we will call it our association, if you like; but I am proud to say that it was your own good idea that suggested to us the plan for state wide organization which has interested the dean of the college and the regents of the University. We all believe that our college must be made even more helpful to the farmers of the state, and we want you to be with us at a conference which the dean has called."

Clifford flushed with pleasure, for he felt that this was, indeed, a great honor. He followed Professor Creighton over to the office

of the dean, who wasted no time or words in opening the subject for discussion.

Dean Hunter was a large man, massive and solid, with a brain as massive as his body. A fearless leader in the educational world, a masterful executive in the college, he was a man big in every sense of the word. As his sonorous phrases filled the executive office, Clifford watched him intently, waiting upon every phrase. The dean evidently had forgotten all about the Student Court episode and Clifford's part in it. In the group were Professor Pumphrey and several of the regents whom Clifford had seen before.

Dean Hunter reviewed at length the work of Professor Creighton and the Experiment Station in plant breeding and in developing new varieties of grains. These grains, if planted by the farmers instead of the old varieties, would cause an increase of millions of bushels in the yield for the state.

"Now here is the great trouble," continued the dean. "The farmers of this state do not yet fully believe in our work, especially that part of it which relates to plant breeding. They cannot understand, and this is but natu-

ral, what we have been trying to do. It is useless to try to dodge the fact. If we should offer to give away the seed of these varieties which we know to be better than those now being grown, they would not believe in this college firmly enough to give it a fair trial upon their farms. We must have growers who have enough faith in this college so they will plant our new seeds, keep them unmixed with the old strains, and sell the crop as seed to their neighbors, so that in a few years millions of bushels will be grown. In this connection Professor Creighton has outlined a plan that is original, to say the least, and seems practicable. Let us have your plan, professor ! ”

“This plan is not my own, strictly speaking, but was suggested to me by Mr. Davison, who is a Short Course student. The various courses of the college have been given for so many years that there are a large number of the graduates and ex-students now located on farms in the state ; every year a new crop of students leaves for the farm ; the sum of these is very large, and it is but reasonable to suppose that they have been here long enough

to get the spirit of our work, and to believe in us. Now if we could persuade the great majority of these students to grow small fields of these new grains upon their farms, so that their doubting neighbors could see for themselves how good they were, the problem would be half solved. It is my idea to band these men into a formal association known as the State Experiment Association, so that this work of introducing the new grains can be carried out under proper supervision and according to some definite plan."

"I am in favor of this plan of forming an association of our boys who will agree to carry on this seed selection under the direction of the college," declared Dean Hunter.

"But they are only boys," objected one of the regents. "Do you think that their neighbors will listen to them when they won't listen to us? I am afraid that they will call them 'book farmers,' and pay no attention to their efforts. They are too young to carry on work for the college."

"Yes," agreed Professor Pumphrey, "they are young, but they have a faith and enthusiasm which their parents seem to lack."

They believe in this work, and have the vim to carry this work along and compel attention. I believe in boys. Why, the Civil War was fought by boys. In the Union Army there were more than 2,000,000 soldiers between eighteen and twenty-two years of age, which is about the age of our students. In the Southern Army the boys were even younger. I believe that boys can be as good farmers as soldiers."

"Here is the way it looks to me," interrupted Dean Hunter. "Farmers expect to make money. The way for our boys from the college to win attention is to show beyond a doubt that their pure bred grains are more profitable. If Davison, here, and his neighbor Bolton—*isn't that the name?*—can raise larger crops from the new seed, and make more money from the same land, the people around Corinth will soon fall into line. They will make a path to their granaries for some of that better seed."

One of the regents, who had so far said nothing, but who had been watching Clifford closely, now spoke directly to him.

"Is this your idea, Davison? Do you

think that you could go home and do some of this seed growing on your own farm in such a careful and profitable manner that your neighbors would believe in you and what the college is trying to teach?"

"I am sure that I could," replied Clifford. "Of course, I don't want to boast, but I am sure that Mr. Bolton and I could make the neighbors believe in using better seed of all kinds, whether they wanted to believe in us or not. They would have to believe the evidence of their own eyes."

"What makes you so sure?"

"The crop of corn that Bill and I had on our prize acre last fall."

"Who is Bill?"

"My partner and hired man."

"Well," said the president of the regents after some more discussion, "it seems to me that if you can get such fellows as this," and he gave Clifford a resounding slap on the back, "I'm converted to your plan of tying these student farmers together for the job. Now tell us just how you propose to accomplish this organization."

"Gentlemen," replied Professor Creighton,

"perhaps I am a dreamer. Possibly I may see in this plan more than there is really in it; but I am going to take a chance and tell you what I really see.

"First, I see a hundred of our best boys this year all working together for the same thing, and working to win. I see these boys winning out at harvest time, and I see their neighbors pricking up their ears, and some of them will buy of this new seed at once. Next year I see this same hundred boys continue with the new seeds, this time possibly having their entire farms in the pedigreed grain. With them will be more than a hundred new student farmers, just as enthusiastic and just as full of faith as the original hundred. Now I see the work expanding, and I see a great call for these new seeds. The Experiment Association will need a secretary to answer letters from farmers and to keep the records of the association, and help in every possible way. As the inquiries for seed came to the college the secretary could refer the writers to our boys who have this seed for sale. We might well have even a system for certifying seed under the seal of the state, which would

insure buyers they were getting seed that was true to name."

"That would be dangerous," said one of the regents. "We couldn't watch all these boys all the time to see that they were honest. We would get into all kinds of trouble."

"I don't believe it!" exclaimed Dean Hunter. "I have watched these farm boys for years, and I have never seen a more loyal and honest lot of young men in any college in America. If we can't trust them we can't trust anybody in this wide world."

"You won't need simply to trust them," explained the president. "A simple system of inspection and sealing could easily be provided, so far as that is needed. Go on, professor; this is interesting. I am growing enthusiastic myself. What more is it that you see?"

"I see," continued Professor Creighton, "a great seed grain growing industry built up here in our own state. I see other states coming to us for seed. I see nations from across the oceans sending to our farmers for the seed that made our farming famous. I see the business growing so great that each

county here must have its own branch of the state association. The state secretary then sends out-of-state orders and foreign orders to these secretaries of the county orders of the state association. I see millions of dollars coming to our farmers, most of them students of this college. I see it one of the greatest and most profitable branches of farming that this state has ever seen."

"Well, you certainly have a most vivid imagination, professor," declared the objecting member of the board, "but hanged if I don't believe that you see straight enough. I move, Mr. President, that steps be taken to carry out this plan."

The vote carried unanimously, and they all filed out of the room, little knowing how soon Professor Creighton's picture of the seed trade, really suggested by Clifford, would prove to be very real.

After the meeting, which proved to be one of the most important ever held in the college, when subsequent influence on the course of events is considered, Clifford went up to the plant room of the soils laboratory to take notes on his remaining boxes of alfalfa plants.

He had also been given charge of a test between northern and southern grown alfalfa seed to discover something about their germinating powers, although the really decisive tests were to be carried out in the field later.

The alfalfa plants were, in the main, demonstrating the correctness of Clifford's theory when he started the test. Those plants which were limed, inoculated, and fertilized heavily with phosphorus, were doing amazingly well. When just the untreated soil was used, the alfalfa exhibited a spindling, yellow growth.

"Well, Clifford, what have the tests taught you?" asked a voice behind Clifford, as he was fussing with the boxes.

Clifford turned in surprise and beheld Professor Creighton, who had followed him into the plant laboratory.

"Given me confidence to try alfalfa on my own farm next year."

"How are you going to set about it?"

"I am going to take that field behind the barn upon which I grew my prize corn, and plow it. I won't put any more manure on it, for manure not only contains numerous weed seeds, but is also heavy in nitrogen, and

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nitrogen encourages the growth of weeds. As soon as the land is plowed I am going to spread about two tons of marl per acre, or enough marl so that the soil will no longer turn blue litmus paper pink."

Professor Creighton interrupted with a good-natured laugh.

"You talk like a college bulletin. Why not use finely ground limestone rather than marl?"

"I wish I could, but there are no limestone mills in the neighborhood, and to ship a car-load of limestone would be practicable only if the neighbors would club together. I know that Mr. Bolton has an old marl bed that I can raid for the asking."

"How are you going to inoculate?"

"I am going to ask you to send a bag of ready inoculated soil from the college, if I may make so bold as to ask the favor."

"We will gladly do this. But why not use the commercial cultures that are being advertised so widely? All you have to do is to pour a bottle of that stuff over the seed. With the soil you have to undertake a great deal of hard labor to make it effective."

"I know that. But may I ask why are you not using those cultures on your college fields?"

Professor Creighton laughed.

"A fair enough answer. We are not using them because we have found them uncertain in their results. Some day they will undoubtedly be all right, but for the present we prefer to use what we know to be sure in action."

"And when," continued Clifford, "I have worked this marl thoroughly into the soil, I am going to borrow Mr. Bolton's grain drill, which has a fertilizer attachment, and drill one bushel of oats and three hundred pounds of a high percentage phosphate fertilizer per acre. Then I will take a little hand seeder and broadcast twenty pounds of Montana grown alfalfa seed, and finish by covering with a smoothing harrow."

"Why the Montana seed?"

"You have found it best here at the college."

Professor Creighton eyed Clifford appraisingly.

"You certainly have been observing, and

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not afraid to think for yourself. Your plan is rather different from the usual practice, but I don't see why it shouldn't be a success."

After a little further conversation, the two left the laboratory.

"By the way," asked Professor Creighton, as they parted at the corner, "have you found any trace of your money?"

Clifford shook his head rather sadly.

CHAPTER XIX

CLIFFORD RECEIVES A SURPRISE

"BEEN promoted to the first team yet?" inquired Willis one night, as Clifford was rummaging the closet for his cap. Clifford was in a hurry, and the mysterious disappearance of the cap annoyed him, so he pretended not to hear the query.

"Say, Petey," came a muffled voice from the closet, "you don't by any means happen to know where my cap is?"

Peter winked at Willis.

"I have enough work to keep track of my own duds without looking after yours too. Don't you go accusing me of things."

Clifford emerged from the closet, brushing the dust off his coat.

"My experience in this establishment has taught me this slogan : when something happens, trust Peter Todd to be at the bottom of the trouble.—Did you speak to me, Willis?"

"I merely wanted to know if they've made

you team captain yet. Judging by the time you spend in the gym, you should be a wonder by this time."

"Don't get fresh!" replied Clifford somewhat shortly, his eyes roving over the room searching for the lost cap. "I'll be lucky to make the team at all, unless half the regulars break an arm or something. This practicing is lots of fun, however; Grant certainly is a dandy coach."

Peter Todd rose carelessly from his rocking-chair to get a drink. Clifford's eyes, in their roamings, were attracted to the chair. Peter Todd had been sitting on his cap.

"You scamp," he exclaimed, rescuing the cap. "You knew it was there all the time, Petey!"

"Course I did. You put it there yourself, so don't blame me if it's mussed up. This happens to be my particular chair."

"I do remember, now, leaving it there," admitted Clifford somewhat unwillingly. "Anyway, Grant asked us to come a little earlier to-night, so I must be going."

And Clifford dashed out of the house.

"It will be a shame if Grant doesn't give

Cliff a chance to get into a real game," remarked Peter, as Clifford slammed the door.

Willis nodded.

"Cliff certainly has put in some hard licks. Too bad he hasn't got a little more fat on his bones."

Meanwhile, Clifford was hurrying to the gymnasium. Promptness was one of his virtues.

To his disgust he was a few moments late, thanks to Peter's prank. The squad was already in uniform, and was warming up on the floor. So Clifford broke all records getting into the proper clothes, appearing just in time to take his place in the formal line-up for roll call.

This was to be the last practice before the Commercial game in the stock pavilion, thus the coach was giving the final touches to his team. He had been trying, at various times, to see what Clifford could do in the regular line-up during practice hours, but had never entered him in a real game.

To-night he turned sharply to Murray :

"Murray, you have been falling down in your work lately ; you haven't practiced

worth a cent. Likely as not you'll fall down next Friday."

"You can't expect a fellow to live in the gym, can you!" Murray's tone was querulous and defiant.

The coach stared at him stonily.

"No!" he exploded finally. "I don't expect a fellow to live in this gymnasium; I merely expect a fellow to be conscientious in his training, and to keep in condition. You have done neither. Since you are so afraid that you may become a permanent fixture in this gymnasium, I will excuse you from the coming game."

He turned to Clifford.

"Cliff, I guess I'll give you your chance, at last, to prove what you can do in a real game. Bradley, you may take Murray's place at guard, while Cliff takes your place at forward."

In justice to the coach's seemingly unreasonable explosion, it must be admitted that his temper had been sorely tried for the past three weeks. Murray had cut practice at will, his playing had slumped, and he was a dangerous influence upon the fighting spirit

of the team. It would not have surprised anybody very much if this had happened sooner.

Nevertheless, it was rather close to the great game to make any serious changes. And there was no question that Murray was the crack guard of the team if he but chose to exert himself.

When Clifford took his place at forward, the full significance of the coach's actions for the past two weeks dawned upon the squad. Clifford had been tried out in practice at that very position, with the present line-up, for several nights, but as Grant usually did quite a little shifting, it had not been noticed, especially by Murray, who was always glad to take a rest.

Murray took his disciplining badly. Angrily throwing down the basket-ball he was holding, he rushed to the locker room.

"Where are you going, Murray?" the coach called after him.

There was no answer from the enraged young man.

The coach turned sharply toward his team.

"That's just the spirit Murray has been

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showing all winter," he exploded, "and I want to tell you fellows right now it won't go far with me."

Coach Grant then turned to Clifford Davison.

"I wish to preach a little sermon to-night. It will be about Clifford Davison here. When I agreed to coach your Short Course team I did so only upon condition that you fellows follow my instructions to the best of your ability. I realized that most of you come from the farm, and have had but little practice in basket-ball. I have had to teach many even the rules of the game.

"There were just two of you men on the team that were good basket-ball players before I took you in hand this winter. One was Murray, and the other Bradley. Weimer played on the team last winter, but that is all the practice he has had. Camp and Clifford are green men. Camp made the team and holds his place because he is a great big moose of a fellow, the kind we must have at center. He is pretty fast, and doesn't get rattled easily, and some day ought to be a good player.

"With Clifford Davison, however, matters

are different. He never saw a basket-ball before this winter. What is more, he is thirty pounds under weight. You know what a handicap that is in basket-ball. That didn't seem to make a bit of difference to him. In spite of the fact that he is working his way through school, he has been here every practice night. Not another one of you can say the same. And how many of you sneaked into the gym every chance you had and practiced shooting baskets? Again, you might take a lesson from Clifford.

"Boys, Murray is not going to play next Friday, and Clifford is. I have told you why. Now, I want you fellows to take this in the right spirit. Murray might have done better than Clifford will do, but I have had just enough of his poor sportsmanship. So be fair to Clifford and give him every chance you can. Show him that you stand for true sportsmanship, and make him feel that you would rather have him play and lose the game than to enter Murray and win. But you will see that Clifford will stand the test."

Clifford hardly knew where to turn in his embarrassment.

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"Three cheers for Davison!" shouted Camp, the big center, as soon as the coach had ceased.

The cheers were given with a will, and then energetic practice commenced. For the Commercials had been defeating their opponents right and left, and were a team to be feared. But in spite of the coach's "panning," the Short Course really had a very good team, one good enough to win with no bad breaks in luck. Camp was a tower of strength, as he took to basket-ball naturally, and if he could have had a chance to play on the Varsity team would undoubtedly have made a name for himself. Only his lack of experience made him weak against tricky plays of the kind the Commercials would be sure to use.

Bradley was a seasoned player, and the great crony of Murray. It was Bradley who had engineered Murray in a campaign for the class presidency, and the two were defeated largely through the efforts of some of Clifford's friends in the second year class. They had always unjustly suspected Clifford of taking part in this campaign, and dis-

liked him thoroughly because of it. Bradley could hardly keep from snubbing Clifford before the eyes of Coach Grant. But realizing what had been Murray's fate, he swallowed his anger as best he could.

Weimer was a farm boy, but he learned the game fast, and really was a most promising guard. He was rather weak in scoring, but the forward who could get away from him had to be a good one. Axel Evans, the other guard, was a knotty Scandinavian, as hard as one of his Norwegian cliffs, and the most fearless and reckless player on the team. His slashing style of play was soundly feared by the Commercials, and if he had been a brainy player he would have been a real star.

These four men, with Clifford, thus constituted a team which had elements of strength and weakness, but which, if they played in harmony and with smoothness, would be a hard team to defeat. Secretly Coach Grant felt that the sudden substitution of Clifford was not such a calamity to the team after all. Besides, it was a wholesome lesson in discipline.

To-night, the coach divided the squad as usual, and as Clifford took his place at for-

ward with the knowledge that he had "made the team" at last, he was very happy. Under the stimulus of the very evident good will of the team, he was in a mood to play with confidence and assurance, without which the best playing is impossible.

"Don't take any chances of hurting yourselves to-night," Grant warned the regulars. "Don't pay much attention to the second squad's score, but strive for perfection in short passes, rather than to make a large score against a team you know you can beat. Those long 'pot shots' are all right once in a while or when really necessary, but if you fellows have been watching the Varsity play, you will have noticed that they have developed a system of very short passes, the same system that I have been trying to teach you. Are you ready?"

After twenty minutes of stiff practice, during which Grant refereed a very strict game, he stopped the game to give some final instructions.

"Bradley, you are still a little too rough. Camp, you let yourself be fooled twice by the same trick play. Watch yourself better. And

Clifford, don't try to play the whole game yourself. Don't waste your strength." And so on down the line.

"Remember," he concluded, "to take good care of yourself between now and Friday night. Eat moderately, and go to bed early."

The next morning the news that Clifford had replaced Murray on the team spread rapidly over the department, and caused a mild sensation. It was received with more or less incredulity until Murray himself put an end to all doubts by bitter invective against Coach Grant.

Few really begrudged Clifford the honor. They liked the earnest young chap who had always attended so strictly to his own business, and wished him well. That, however, did not prevent many from serious doubts regarding Clifford's ability to play well enough to withstand the terrific hammering the Commercials would be sure to give him.

Murray controlled a powerful, even if small, faction of the class, and this clique expressed such sincere doubts over Clifford's ability, that Clifford's own confidence was shaken. He mentioned his doubts to Grant.

"I know what I'm about," assured the coach. "Don't pay any attention to all the gabble that you hear. You'll make those doubters eat their fears, or I lose my guess. Just remember that the *Commercials* are reputed to be a rough aggregation, so be careful not to let them touch you too often. Just between you and me, I am counting on the fact that a good many fouls will be called against them; in that case, you will win the game for us by your skill with free throws. You have the surest hand and eye I have ever run across. Now run along and forget everything but that you will not fail me."

Peter Todd, too, scouted the idea of Clifford's not playing.

"You just get into the game and let her rip!" was his rather inelegant command. "We boys are counting on you, and are tickled to death that Murray was canned. He was an old grouch and nobody likes him very much."

Willis also put in his word of encouragement.

"We'll all be boosting for you," he declared.

CHAPTER XX

THE NEW ASSOCIATION

"GOOD-MORNING, Professor Creighton ; just step in for a moment, and I shall soon be ready to go over with you," said Dean Hunter, as the professor passed his door on the way to a meeting of the students. The two men had called this meeting as a result of the talk in the dean's office a few days before.

"Now, what is the prospect?" asked the dean, knowing full well that the seed specialist was brimming over with the importance of his favorite subject.

"The prospect," said Professor Creighton, solemnly, "is that there will be organized this evening the most important agricultural association in the state."

"That is putting it strongly enough, at any rate," remarked the dean, laughing.

"Not a bit too strong, though," declared the instructor. "We have come to a time

when the work of the college in growing purely bred seeds has outgrown the college farm. This work must now be continued out on the farms of the state at large, by the ordinary good farmers in different counties. If we cannot make them grow these new grains there is no use in our developing them."

"So you still think young Davison's idea a good one?"

"The best plan that has been thought of. But there must be faith in it, and enthusiasm to carry it on, and both of these our boys have. They also have the farms, the brains and the will to put through this work. Where else can we get such a strong combination?"

The room where the meeting was called was not large, nor were there a great number of the boys present. Few had understood the reason for the meeting, and not so many more really cared. When the hour for calling it to order came, there were thirty of the students in the room.

Dean Hunter presided and told the boys that Professor Creighton would tell them his story and tell them, also, what he wished

them to do. Then Professor Creighton spoke. He really made a class of them, and taught them a lesson that some, at least, never forgot.

"Boys, do you know what is going on here in the college? Do you know that some of the most important achievements of the college are in danger of being lost to the people of the state, unless we do something to show the grain growing farmers in all our counties that the college bred varieties of grains are better than the others?

"You fellows know the advantage of using these good strong varieties of corn, barley, oats and rye, over the scrub seeds that do not yield as well and that do not come true to type more than half the time. You know it better than your own fathers know it, for your training here has taught you that much at least. You know it better than any one else.

"Now, the question before us to-night is this: Will you be teachers and farm missionaries for good seed to your own neighbors?

"It will not be an easy job. The rank and file of the farmers are not ready to believe us nor you. They must not know that you are teaching them, or they will sneer at you

and call you impractical and dreaming book farmers.

"We have in mind the organization of a few of our best students to do this work, and the fact that you are here to-night shows your interest. Now we will tell you a fact that should hold your interest still closer to this new work. You are to teach your neighbors the value of purely bred seeds, not by preaching to unbelievers, but by taking these same seeds and raising bigger crops than your neighbors who depend on the old scrub stock."

As Professor Creighton began to explain this phase of the work there was not a boy in the room who did not "sit up and take notice," as Peter later expressed it. Professor Creighton explained further :

"Nothing wins like winning," he declared. "The idea with us is that the members of this new association who grow purely bred grains will outdistance their neighbors so conspicuously that even the most unwilling must acknowledge the merit in the pedigreed varieties. Good cattle, horses, sheep or swine are not produced without selection. Neither will seed grain, shoveled out of any old bin

into the seeder, produce the best crops. Such grain has no true name, and cannot reproduce a crop that is better than itself. It runs out.

"You have had this lesson drilled into you here at the college until you should know it by heart. But this college is supported by the whole state, and is working for your neighbors as well as for you who come here to study. On the suggestion of Clifford Davison, one of the undergraduates of this college who is with us to-night, we have come to realize that it is for you to carry proof of the value of good seed to your neighbors.

"Davison's plan, as elaborated, is as follows: An association will be formed and seed will be given by the college to the members of this association, which seed must be planted on the farms of the members. The college will keep a record of the grains grown by each member and will do a certain amount of advertising the first year. After that the young association should be able to take care of its own affairs.

"There should be a demand right now for ten times as much Number 8 and Number 12 corn, Number 1 oats, pedigreed barley and

pedigreed rye as we have on hand. Next spring the demand should be trebled, and after that it should be still greater. Do you see the money there is in it for progressive seed grain growers when once the farmers of this and other states realize the value of these new grains and are eager to buy them at very good prices? "

There was a moment's hush after Professor Creighton had finished his talk. Then the boys began, first to whisper, then to talk aloud, to signify their readiness to follow up the experiment work in the way the instructor had indicated. The meeting became very informal.

" You may count on me, professor," shouted one. " And me," " And on me," cried several others. Then " Three cheers for Professor Creighton ! " " Three cheers for Dean Hunter ! " and " Three cheers for the college ! " followed in quick succession.

Quiet was restored only when the dean rose and said : " You seem to be in favor of the new Experiment Association, and I believe that no more loyal, capable, and honest lot of men could be brought together anywhere

for organization to take hold of this work than we have here. I will now hear motions for organization and nominations for an association president, vice-president, and secretary. Those of you who expect to enroll as members will stay, while the others may leave."

No one left the room, and after a motion to form the State Experiment Association was carried unanimously, and a constitution and by-laws submitted by Professor Creighton had been accepted, half a dozen names were put in nomination for the office of president. Several ballots were taken, with no one having a majority, Clifford Davison receiving one vote each time.

Finally Clifford rose and addressed the meeting :

"Dean Hunter, I don't want any one to think that I am voting for myself, and I wish that whoever is voting for me would vote for himself or for somebody else."

In the laugh that followed a big fellow stood up in the back of the room and said :

"I am the guilty one, and I won't change my vote for myself or anybody else. I tell you ——"

He had to stop until the laughter and cheers had subsided. Then he continued :

" Professor Creighton has told us that he began to think this plan over only after Davison had suggested it, and even though he is not a graduate this year, I know Clifford will make a good president. I will tell you why. In a scuffle with me up in the plant laboratory we upset his alfalfa box and spoiled some of his most important experiments. He took all the blame upon himself for that. In the same scuffle he lost his purse with all the money he had, and he blamed nobody for that, either. He's a big fellow, and ——"

Here Clifford rose, and by threatening the speaker with physical violence caused him to be seated. But at the next ballot the vote showed eight for Clifford, and another candidate dropped out. At the next ballot Clifford and two seniors were running even, for there was still a feeling that the office should go to a second year man.

Then a Davison voter called for a chance to talk and was given the floor by Dean Hunter, who was enjoying the contest much more than Clifford was.

"Mr. Chairman," cried the student, "I wish to call attention to the fact that one of the candidates is not a farmer but a teacher, and I believe he will tell you that he will not be on a farm next winter, but will teach. Davison actually has a farm and will grow some of these new grains. Is it not better that the president of this new association be an actual grain grower rather than one who will merely tell others how to be better farmers?"

This brought down the house, and the senior who was "only going to tell about it" took it all good-naturedly, and asked that his name be withdrawn. At the next vote there was a tie, when somebody discovered that Professor Creighton had not voted. It rather embarrassed him to be called upon to cast the deciding vote between the two candidates, but he made known his choice in a few words:

"Since it has 'been put up to me' so squarely, I will say that I have the fullest confidence that either or any of these candidates would serve us well as president. However, though Davison is the younger, I have a special reason for wishing him to take the office, and I vote for him."

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This settled the question, and Clifford Davison was then named president by acclamation. Professor Creighton himself was chosen secretary of the association, as it was thought best to give this work to a man who had the services of a stenographer at his command.

As the meeting broke up, Professor Creighton asked Clifford to remain and talk matters over. "It is up to us now," he remarked, "to make good or forever hold our peace."

After they had decided that every member of the new experiment association was to receive one bushel of a new winter wheat that the college had developed, or one bushel of Pedigreed Oats No. 1, or a bushel of Silver King corn, the professor and Clifford started walking toward their rooming houses. On the way they passed the Soils Building.

"That reminds me," remarked the professor, "that I haven't seen your alfalfa test boxes lately. Have there been any developments since your famous scuffling bee?"

Although Professor Creighton really did not mean to be at all sarcastic, Clifford flushed with embarrassment at this sally.

"Not particularly. I never did clear up all the mess we made that afternoon, as I was in hopes that enough of the plants were saved to give me an indication of the action of the bog ore soil. But I think I'll throw the boxes away now, for the last plant has just died."

In the laboratory room, Professor Creighton examined the test boxes carefully, while Clifford was scooping the soil out of the ruined test box.

"By the way," inquired the professor, "how are you coming along in basket-ball practice? The big exposition is only two weeks off."

"We've been practicing hard. I'm a little worried about myself, for I realize I am not the equal of Murray in a hard game. I almost wish that Grant had not been so strict with Murray, but had let him play."

"It was the only thing to do. After all, school athletics are not primarily for victory but for character building. I believe most of the boys feel that Murray got no more than his just deserts. I haven't found any one weeping over him. You just play the game cleanly, and as well as you can, and we'll all

be satisfied. Besides, you never can tell. You may yet surprise yourself."

Clifford laughed good-naturedly.

"We'll not worry about it, anyway. I've more important things, such as an unpaid board bill, to ruminate about."

He uttered a sudden exclamation, and began to dig excitedly in the broken test box.

"What's the matter?"

For reply, Clifford held up a handful of sticky earth on which lay two dirty, yellow metal discs.

"My money!" he exclaimed. "Talk of the old gentleman, and he is sure to appear."

They really were his lost gold coins. They must have dropped into the box during the scuffle, and were then covered.

"Do you still think your board bill is so very important?" asked Creighton, with a twinkle.

"It won't be after I give one of these yellow boys to Mrs. Miggles."

And Clifford wiped the money clean and deposited it safely in a pocket, after first assuring himself that there was no lurking hole through which it could be lost once more. He was genuinely happy.

CHAPTER XXI

THE COLLEGE EXPOSITION

THUS almost before our three friends knew it, the College Exposition was upon them. They had been so busy with their manifold duties that time had sped unnoticed. As a matter of fact, there was little real fun in the life that Clifford, Peter, and Willis led. Being boys, they had to let off steam once in a while or burst, but as a rule their middle name was plain Hard Work.

Clifford, perhaps, took the burden of life most seriously. Not only was he most thorough in his lessons, but with his work for Professor Hoyt in the Engineering Department, his basket-ball duties, and his preparations for the exposition, he had the most work to do. Peter was not of a sufficiently dogged temperament to plug along as earnestly. Willis, who was the brightest student of the three, did his work most quickly and easily, and found time for that extra reading

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of fine literature that would have been so helpful to the other two.

The College Exposition consisted of a two day program. On the afternoon of the first day, the preliminary contests would be held, followed by the basket-ball game in the evening. On the second afternoon would be more contests, the affair ending with the climax of the exposition, the grand parade in the evening.

Clifford, true to his promise to Peter, did not enter in the horse judging contest, but he did work hard to prepare for the horse exhibiting contest.

Coach Grant tried to keep Clifford out of these various activities.

"You'll tire yourself all out and be no good for the game," he growled.

But Clifford would not listen to reason.

"I'll go to bed early the night before and sleep until late the next morning. And I'll really not overdo. I won't be in the judging ring more than half an hour, and I'll save my strength."

The coach was forced to be content with this promise.

Clifford went over to the stock pavilion

early on the morning of the exposition. All classes had been suspended in honor of the festivities, so that both teachers and pupils would have plenty of time in which to do their work in connection.

Clifford went immediately to the stall where his stallion was kept, and began to groom the beautiful animal for the afternoon's performance. He combed and braided the mane and tail, and decorated each with gayly colored ribbons. He brushed the glossy, black skin until it fairly shone, and trimmed the legs and feet of stray wisps of hair.

This done, he wandered idly about the stalls, scrutinizing the other horses that had been entered.

Five box stalls which had been empty the day before were now occupied by strange horses, very likely some that had been secured by the college for special work in the judging contests. Most of the students were too familiar with the college horses through frequent use of them in class to allow their use. The new horses were fine grays and blacks belonging to the great French breed of drafters, the Percheron.

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"Peter ought to be looking these over," was Clifford's immediate thought. "However, I suppose that would be hardly fair to the rest of the boys."

Clifford's first impulse was to enter the stalls and examine these splendid Percherons himself, for he was a lover of horses, and these were unusually fine individuals. But a sign over each stall arrested him.

KEEP OUT—DANGER

*Students entering these stalls
will be punished*

Just as he was on the point of leaving, one of the barn men came walking up the aisle. There was a furtive air and manner about him that arrested Clifford's attention, so he stepped unnoticed behind the protecting wall of a stall in order to watch the man.

The attendant went directly to the first of the five stalls, after assuring himself that no one was in sight, and began to fuss with the front right foot of the horse. Clifford was unable to see what the man was doing, but he seemed to be marking the hoof with a lead pencil. The attendant soon reappeared,



SOME TRICKERY WAS AFOOT

stepped into the second stall after again looking about hastily, and performed a similar operation. This was repeated until the fifth horse had been visited.

Clifford's curiosity was keenly excited. Had the man not been so secretive about this work, Clifford would never have given him a second thought, for it would be the most natural act in the world for the regular barn men to take care of these "imported" horses. The man's manner caused Clifford to suspect that some trickery was afoot.

As soon as the man had gone, Clifford, unable to curb his curiosity, stepped boldly into the first stall. He felt sure that if he was discovered and reported that he could very easily explain to the satisfaction of Professor Pumphrey. At first, Clifford was unable to find anything, and he began to suspect that his imagination had gotten the better of him. Finally, when he had almost given up hope, he discovered the figure 2, in pencil, boldly marked upon the inner side of the hoof. Clifford whistled softly as a smile of comprehension swept over his face.

"So that's their game, is it!" he chuckled.

"I just bet somebody will receive one grand surprise before I finish this!"

He drew a pencil from his pocket and altered the figure 2 so as to make it read 3.

The horse in the next stall was marked 1; Clifford changed this number to 4, while each of the remaining horses was similarly changed.

Clifford was very much pleased with his morning's work. If his suspicions were correct, he had checkmated somebody's plan to win a place on the judging team by bribing the barn man to mark the horses in the order of merit. The attendant had probably been present earlier in the morning when Professor Pumphrey had placed the horses as a basis on which to give out the judging contest awards, and had remembered or taken down their rank.

"Wait till I see Peter; I'll have a little fun with him," mused Clifford, gleefully. "He'd just about give the coat off his back for a little bit of information I could give him."

He was bursting to spring the news upon Peter during the dinner hour at Ye Cardinal Cat, but did not dare to do so before Speers and the other fellows. It might be dangerous

to share his secret too generously. But in their own room, immediately after dinner, he turned upon Peter.

"Say, Petey, I'm ashamed of you!"

"What bug's bitten you this time?" flung back the nonplused Peter.

Clifford, assuming a stern, solemn tone, feigned indignation and reproach so successfully that even the quick-witted Willis was almost deceived.

"I never thought that one of my own room-mates would stoop to crooked work in order to win a contest."

"Get out!" returned Peter, suspecting Clifford of some hoax, yet not quite sure. "Somebody's been feeding you turnips!"

"I'm serious," insisted Clifford. "This morning I caught the barn man red handed marking the five horses that will be used in the judging contest this afternoon, in the order, I presume, that Professor Pumphrey had decided. I told the fellow I'd report him unless he told me who had put him up to that stunt, and what do you think he told me?"

"That I'd given him a million dollars to

turn the trick," exclaimed Peter, quickly. "Well, now I am sure that you are playing me for a sucker."

"Nothing of the kind. He said you gave him only five dollars. You must admit there is considerable difference between five and a million."

Willis, who had caught Clifford's sly wink, now entered into the spirit of the occasion.

"Why, Peter Todd, how did you ever come to do such a thing?" reproached Willis, aghast.

"You fellows are plumb off your head," shouted Peter, dropping into excited slang. "Why, I should never think of doing such a thing."

Clifford sighed.

"Well, here is where I lose five dollars. Peter, I know the placing of those horses, but seeing you are so confoundedly honest, I'll have to sell my secret elsewhere."

After that, there was nothing for Clifford to do but tell the whole story, which he did, greatly enjoying his comrades' pleased excitement.

"Who do you think is back of this?" inquired Peter.

"I don't know," declared Clifford, "but if we keep our eyes and ears open during the judging contest we may learn a thing or two."

"Do you intend to report this to Professor Pumphrey?" asked Willis.

"Most certainly not. The fellow will be punished enough before we get through with him."

"Well, we'd better be going, or the doings will begin," suggested Peter, whereupon our three friends repaired briskly to the stock pavilion.

The horse showing event was the first one scheduled. This was to be followed by the various stock judging contests, the final one being the horse judging contest in which Peter was entered. Willis would have his fling in the sheep events in the middle of the afternoon.

Six boys besides Clifford were entered in the horse showing contest. Professor Pumphrey had so arranged it that the seven stallions of the boys were of about equal merit, thus placing the boys as nearly as humanly possible upon an equal basis. The horses themselves were not to be judged, merely the man-

ner in which they were fitted and their graces displayed in the arena. The work of the boys in the arena would receive weightiest consideration.

The event proved a very simple affair. One of the greatest horsemen in the state, a man widely experienced in show ring methods, had been asked to judge.

"Line up your horses, boys!" was his first command.

The seven stallions, restive and unruly in the face of the large crowd that was filling the seats of the pavilion, were placed side by side before the judge. Clifford, remembering the instructions Dr. McAnder had given him, made every effort to get his stallion to assume the correct position. With great patience and deftness he caused his horse to step boldly upright on all four feet, head held high, and the back straight and strong.

Clifford watched the movements of the judge closely. When the judge was busy with the other horses, Clifford would allow his own stallion to relax; the minute the judge turned toward him, he would touch the horse with his whip or pull at the bridle

and get him into the best possible show posture.

In quick succession, the judge ordered the horses promenaded around the ring, in one beautiful row of horse flesh, and then, one at a time, the boys were ordered to trot their stallions up and down the arena.

This was done so that the judge could determine what horsemen call the "action" of the horse. Even the great, clumsy draft Percherons, Belgians, and Clydesdales must show snap and spring in the manner in which they step off; the horse that lumbers along loggily, or is permitted to drag its feet, is quickly counted out of the competition. This trotting was a difficult operation, for the horses, under the spur of crackling whips, were quite unruly.

In about half an hour, the judge was ready to announce his decisions.

"All the boys show careful preparation; all seem natural horsemen; but one showed almost professional skill. I refer to Clifford Davison, and it is with great pleasure that I award him first place. I may publicly inform young Davison that I was so much impressed

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with his work that I am willing to offer him a responsible place in my horse barn any time he needs work."

Clifford, puffing from his recent exertions, dodged congratulations, and went into the dressing-room to get into his good clothes again. Then, remembering Coach Grant's advice to take things easily, he took a seat in the Coliseum and watched the judging contests. He cheered loudly when Willis distinguished himself in the sheep department, and then waited eagerly for the appearance of Peter and the horses.

When the great Percherons selected for the judging contest were finally led into the ring, Clifford scrambled from his seat and entered the arena again. He was in a hurry to begin his amateur detective assignment.

Twenty boys were entered in the contest, but Clifford did not know any of them very well except Peter and Murray. He was considerably surprised to see Murray appear, for the latter had never shown an aptitude in class work which would justify any hope for success.

In spite of the resentment that he knew

Murray felt toward him because of the recent basket-ball episode, Clifford could not resist the temptation to give him a good-humored shaft.

"I suppose you have already ordered the frame for the winner's diploma!"

Murray turned upon him with unexpected asperity.

"Maybe when this thing is over some of you smart alecks will have to eat your words!"

Clifford did not annoy Murray further, but he watched the contest closely. The boys handled the horses constantly, testing the quality of the skin and feeling for hidden imperfections; all looked over the hoofs to determine their texture. Any one looking for pencil marks could do so without exciting any special notice.

Probably because of the personal interest he felt in Murray, Clifford unconsciously watched him quite closely. It seemed to Clifford that Murray did his general work rather perfunctorily, but spent a great deal of time studying the front feet of the five horses. Suspicion soon became certainty. Clifford

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grinned at the surprise he expected Murray had coming.

Professor Pumphrey, who had charge of the contest, spent considerable time checking the lists the boys finally turned in. The boy who had placed all five horses in the correct order, or in the nearest correct order, would win. In case of a tie between several boys, class-room standings would determine the winner.

Clifford watched Murray when Professor Pumphrey started to read the awards.

"The results were very close," began the professor. "No one placed them as I did this morning; however, two boys placed the first three correctly, and transposed the fourth and fifth. Perhaps I was in error myself regarding these two when I looked them over this morning. Peter Todd, because of his better class-room work, is given the award over Howard Freeland."

Surprise, astonishment, and anger lighted up Murray's face.

"Why, professor, that can't possibly be right!" he protested.

"I'm sorry, young man," replied Professor

Pumphrey kindly, "but I particularly remember your placings, because you are the only man in the lot who did not even place the first horse correctly."

Clifford, Peter, and Willis, as they sped toward their room, shed crocodile tears over Murray's plight.

"Served him right," declared Willis, and the others agreed with him.

CHAPTER XXII

CLIFFORD JUSTIFIES THE COACH

"By the way," inquired Speers at Ye Cardinal Cat thirty minutes later, "isn't to-night the night of nights, when you Short Horns play off old scores against that chesty Commercial bunch?"

"To-night is the night," answered Peter, his mouth full of pie that he had stolen from the unguarded Willis. "You and Bob better come along up and see Clifford distinguish this table."

"Extinguish it, you mean," laughed Clifford.

"That's a good idea," agreed Bud. "How about you, Bob?"

"I'm on. I'd go without eating to see 'em get their just deserts."

"We're not any too sure of winning," cautioned Clifford. "You'd better not celebrate until after the official returns, anyway."

"None of that talk," returned Speers.

"Why, man, you simply must beat those chaps!"

"We'll do our best, anyway," declared Clifford, with conviction.

And so it was arranged that Speers and Bob accompanied Peter and Willis to the stock pavilion, while Clifford went to the dressing-room and joined the team and coach.

The stock pavilion was a huge building with a tan bark floor in the center, and tier upon tier of concrete seats overlooking the arena. A tan bark floor had been selected because it was the only one suited for exhibition live stock to trample upon. Realizing, however, that this floor was but ill suited for athletics, a temporary wooden floor had been laid that morning especially for the great basket-ball game. This floor was properly marked out, and enclosed with a stout rope.

Coach Grant called his players together for a final sermon.

"You'll have to fight to-night to win. The Commercials can fight and you simply must, or they will rush you off your feet. Quit only for a single minute, and the game may be lost.

"Clifford, I want you to play stationary forward most of the time. Hover under the basket, and when the ball is passed to you, put it in. Then, when least expected, switch to running forward, and breaking up the other side's game. Also remember to switch positions with Bradley once in a while. Don't be afraid of getting hurt.

"Bradley, you simply must cut down on your rough methods. It gets you nothing except fouls, and we can't afford many of them to-night. The referee will be too strict for comfort.

"Camp, you will have to fight harder; you're too good-natured. Get good and hot under the collar. And watch out for trick plays. This last applies to you also, Axel. Don't get caught napping any more than you have to. Weimer, you are inclined to take too long chances. Pass the ball a little more. Those long shots seldom win a game."

Thirty minutes before the game was to be called, the pavilion was jammed. The game between the Short Course and the Commercial was one of the events of the college town, for it was always sure to be bitterly

fought. But this year unusual interest was lent to the game because of the many wild reports that had been circulated regarding the Short Course team. The sensational dismissal of Murray and the substitution of Clifford had given rise to various rumors. Some reports insisted that Clifford was a player of dazzling skill, others that he was sure to prove a dismal failure, but all excited unusual interest in the game.

The Commercial team, as was the visitor's privilege, was the first to arrive upon the improvised floor. It could be seen at a glance that here was a real basket-ball team. The five regulars and two substitutes were heavy, burly fellows with plenty of physical stamina. As they tossed the ball around among themselves or tried for the basket, they displayed an aggressiveness that was ominous for the success of the Short Course team. However, they displayed no startling skill at the baskets. Their appearance had been politely, though not enthusiastically, cheered. It could be plainly seen that the Commercials were not great favorites. This was because of a reputation for rowdyism the school had

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achieved and not because of any particular bias in favor of the Short Course team.

Clifford and his fellow players, when they trotted upon the floor and took their place under one basket, leaving the other to the Commercials, were roundly cheered. Peter and Speers had assembled a group of the more enthusiastic Short Course boys at one side of the arena, close against the ropes, and organized them into a cheering brigade. Peter had been nominated cheer leader, and Clifford recognized his clear voice leading in :

“Yak chi muh cha harta guta
Plumpa schmeerna Sing sing !
Me much e mal ye ma chow chow
Short Course, Short Course, rah, rah, rah !”

This weird yell was Peter's own invention, and he was very proud of it. It did, indeed, make quite an impression upon the crowd, who had heard it for the first time, and gave the yell the compliment of applause.

Clifford found that the Commercial guard assigned to watch him was a huge fellow, and an expert in the rough-and-tumble style of playing. At center the two teams were about evenly matched, while Weimer and Axel were

expected to hold their own at guard. Coach Grant rather counted on the superior scoring ability of Bradley to make the game a close contest.

As it was Clifford's first important game, he naturally felt a little nervous. The first signal called for a play in which he and Bradley handled the ball. Camp performed his part very well, knocking the sphere into Bradley's hands, who sent it spinning to Clifford. He threw with all his might, and Clifford fumbled.

Instantly, there was hooting and jeering, for the play had seemed all right from the side lines.

Clifford flushed angrily, for he felt that Bradley had purposely thrown the ball so as to make it difficult to hold. But when among the derisive yells directed at him he recognized the voice of Murray shouting "butter-fingers" all the color left his face. At once his nervousness vanished in the great resolve to make good, and to avenge himself on Bradley by playing a great game of ball.

The game grew fast and furious. The heavy Commercial guards hammered away at Clifford and Bradley, in an effort to frighten

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and even injure them. But Bradley was well able to take care of himself, giving as good as he received. Clifford, on the other hand, was being severely punished.

It was not long before Coach Grant's prediction began to be verified. Clifford's guard threw himself heavily against him, and the alert officials promptly called a foul.

Camp tossed the ball to Clifford.

"Put her in, old boy!"

Clifford, every nerve steeled and with his muscles under perfect control, stepped up to the foul line, coolly measured the throw, and tossed the ball gently into the basket. There was a triumphant shout from the Short Course adherents, and his early fumble was already forgiven in this new achievement.

And thus the game progressed, with the fortunes seemingly turning against the Short Course team. Although Clifford had scored ten times from the foul line, missing only once, and twice from the field, the Commercial forwards simply ran away from Weimer and Evans. Camp more than had his hands full at center, while the crack Commercial guards smothered Clifford and Bradley suffi-

ciently to keep them from being highly effective.

Again and again Clifford would be under the basket with the ball poised for a throw, only to be roughly tackled by his guard. Sometimes the interference would be so flagrantly rough that a foul would be called, and again he would foil Clifford so deftly that detection was avoided. Only Clifford really knew how badly he had been battered.

The first half closed 24 to 29 in favor of the Commercial.

Coach Grant was waiting for his team in the dressing-room.

"Bradley, if I were sure you interfered purposely with Cliff, out you'd go, even if we finished the game with four men. And hold your temper under better control; if you did not fight back so roughly we shouldn't have all those fouls called against us.

"Axel, you are doing very well. You'll tire your man soon. Camp, I'm just a little disappointed in you, but you don't smoke and the Commercial man does. So I can depend upon you to run away from him yet. And Weimer, I guess you're better at football than

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in this game. You're working hard enough, but your man is faster. Hold him as well as you can, and I shall have to be satisfied.

"Clifford, you're fulfilling my every expectation. When you fumbled that first throw, many another player would have been a mile up in the air. But you only played the harder, and we really are not missing Murray in the least.

"Now, I want the whole bunch of you to fight 'like all get out' this second half. You've a five point lead to overcome, and you can win this game only by playing the Commercials off their feet in the opening minutes. Dig into it, and luck be with you."

And the team did respond magnificently. Refreshed by their rest, and inspired by the fighting spirit of the coach, they fairly dazzled the Commercials for ten minutes, not only tying the score but even going into the lead by one point. Then the Commercials rallied, playing with all the bitterness of a feud, giving the Short Course men the fiercest contest that they had ever been engaged in.

Clifford had to bear the brunt of this counter attack. The Commercials knew that

there was no substitute his equal, so they tried to force him out of the game. Consequently they mauled him and pounded him, taking desperate chances with the referee.

But Clifford never lost the trend of the game; when Camp signaled for a shift play with Axel, the sudden change of position and policy netted a score. But Axel's guard obtained sweet revenge by landing a most difficult shot immediately afterward, again putting the *Commercials* in the lead.

The only thing that really worried Clifford was Bradley's attitude. Outwardly, the big forward was playing like a fiend, but Clifford sensed that he was not really doing his best. Never so boldly as with that first hard throw at the opening of the game, but cunningly and insidiously Bradley fought Clifford's efforts.

With only two more minutes of play remaining, the tension was getting almost unbearable to rooters and players alike. By a free throw from the foul line, Clifford had again tied the score. Coach Grant was dancing a staccato war dance in his corner, while Clifford's foes, their animosity forgotten, were calling vociferous encouragement.

Suddenly the tension snapped. A Commercial forward fumbled a faulty throw and the ball rolled to one side. Instantly Bradley and his guard rushed headlong for it, but Clifford had already picked it up.

The ball left his hands almost immediately, but at the same time he was struck with tremendous force.

Just how it happened nobody ever knew, but Bradley in some manner got his feet tangled up with those of his guard, and together the two had fallen heavily against Clifford, bearing all three down in a heap.

The ball left Clifford's hands, however, just the instant before he was struck. It poised on the rim of the basket for a minute, swept a circle in a most tantalizing manner, and rolled into the basket just as time was called.

Clifford's throw had won the game.

When Clifford recovered from his daze he found himself on the floor of the locker room, Coach Grant dashing water into his face, and Peter and Willis bending anxiously over him.

Clifford pulled himself up on one elbow.

"Did it go in?" he whispered eagerly.

CHAPTER XXIII

THREE PRIZES AND AN ACCIDENT

THE second and last evening of the College Exposition came, and the stadium was crowded with friends and visitors long before the time for the grand review. Although the semester was not quite ended, the annual exposition, in a way, marked the close of the term's work. The honors won in the class room were to be awarded this last evening, and the best work of the college, with a picturing of the state's resources, were to be important parts of the evening's entertainment.

Promptly at seven o'clock, a stirring concert by the band opened the program. This was followed by a chorus by the class clubs, and in the meantime the great pavilion was being packed with people. At eight o'clock the band struck up the grand march, and the parade, which had kept nearly a hundred students busy for two weeks in preparation, began to enter the arena.

Those who had heard that this year's exposition was to outdo all others had not been disappointed in what they had seen so far, but they soon saw that this evening's features were to be the great climax to the entire show. First came the dairy division, and the crowd broke into cheers as the scheme of this part of the program was made clear to the on-lookers. Each division of the procession had its distinctive color scheme, and white was the dairy color. The dainty little dairy maids (recruited from the Domestic Science classes of the college), the cattle, all wearing spotless white blankets, the white floats showing the different operations of home dairying, the factory work, stable practice, cheese making, cooling milk and bottling it, testing, separating, freezing, etc., were all shown in white.

For some reason which he did not quite understand, Clifford was asked to ride in the modern milker float in this section of the parade, though his real part was to be in the black section to follow this. On the milker float he was merely to ride, sitting up there on a white stool, dressed in a white suit, while the imitation milker throbbed merrily away,

milking two very good looking imitation Ayrshire cows. But when the milker float came to a stop with a blare of trumpets just opposite the reviewing stand, Professor Pumphrey stepped from the stand to the float and held up his hand for silence. Then a leathern lunged fellow with a megaphone began to explain.

“For highest honors in the work of the Dairy Department this year, the faculty has selected a first year student, a precedent in the history of this college. The reason for this is that his work for the milking machine has probably done more for the great dairy interests of this state than any other special effort made during the year. For particulars you must all read the papers to-morrow morning. Don’t miss this story!”

Even the leathern lungs could stand the test of this long speech no longer, and the megaphone man stopped to take his breath. Meanwhile, Professor Pumphrey pinned a shining medal to the white coat of the master milker, and he with the megaphone finished his announcement.

“Honors for dairy work are awarded Clif-

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ford Davison, of Corinth. Read the whole story in the morning's papers, and get one of the college bulletins telling of the work of the milking machine here!"

Clifford's face flamed, but he stood proudly beside Professor Pumphrey, bowing rather awkwardly as the crowd cheered. He was not used to receiving honors in this public fashion.

Then the white section moved on again, around the circle of applauding, cheering people. One float carried an enormous cheese, another a butter tub twenty feet high. On another a pretty little girl was learning from a huge chart a lesson taught by a school ma'am. This lesson was in the form of a row of long figures showing the wonderful dairy production in the state. Besides this was a table of comparisons, showing how favorably the golden butter and cheese valuation compared with the value of the total amount of gold mined in the entire country. Another chart told how many pounds of butter and cheese and how many cans of condensed milk, etc., were made every time the clock ticks during the working day. Not only

were the eyes and ears of the visitors pleased, but they were taught good lessons about their own great state, as well.

Last in this section came two of the boys with their special stunts to delight the crowd. With a great deal of care and time, one of the boys had trained two Chester White pigs to follow him wherever he led. This had taken several weeks of training, the secret of which was that the pigs fully expected to get a choice bite to eat. The bite in this case was peanuts. The little white pigs were allowed to get sharply hungry, then were led about by the trainer, who was always dressed in a white suit and who would occasionally drop a peanut for each. Before many days these hungry little porkers would follow any white suit for a long time in the hope of getting peanuts. In and out, around and across, the lean little fellows kept always at the heels of the boy in white who had peanuts in his pockets. So seldom did he give them one, and so quick were they to get it, that few realized the trick, but wondered at the affection of the little pigs for their trainer.

Last of all came Willis, who had been

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shepherding half a dozen of the choicest Cheviot lambs to be found at the college, or indeed anywhere in the state. They were not little lambs, but were then ten months old, and fine and large for their age. Willis had taught one of these beautiful lambs to follow him closely. No doubt an ever ready milk bottle had something to do with the lamb's devotion. At any rate :

“ Willis had a little lamb,
Its fleece was white as snow ;
And everywhere that Willis went
The lamb was sure to go.”

Not only this, but as sheep and lambs often follow their leaders faithfully and blindly, the little flock went round and across the ring, following Willis, who walked more proudly than he had ever trod before. Had he not won the prize for work in Sheep Husbandry ! Shepherd Kline walked out in the ring with the man with the megaphone and stopped the little flock in the middle of the arena.

“ Honors in the department of Sheep Husbandry are awarded Willis Winthrop for first year work and Henry Worden for second

year work. Read all about the work of the college in to-morrow's papers ! ”

Then on the breast of each of the two boys was pinned a gleaming medal which signified good work well done. Quickly the boys, the girls, and all the crowd took up the lilting song :

“ Willis had a little lamb —
 Little lamb —
 Little lamb,
Willis had a little lamb,
 Its fleece was white as snow ;
And everywhere that Willis went —
 Willis went —
 Willis went,
And everywhere that Willis went
 The lamb was sure to go.”

Happily pleased, Willis went on around the ring, bowing and smiling to his friends, the lambs following their leader at his heels. After the white section had left the arena, Willis and the boy with the pigs were called back by the crowd. So they turned for one more march around the ring, the band having taken up the “ Willis had a little lamb ” song. This final march was a mistake made by the crowd, the boys, and all together.

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The lambs and the little pigs were away at the farther side of the arena when a blare of horns, a crash of trumpets, a new march by the band, and a chorus of shrill neighs from a dozen prancing stallions ushered in the black division of the grand parade. On they came, all in black: black stallions, or others with black blankets; black Angus "doddies"; some choice Berkshires and Poland Chinas; a section of farm machinery; and last of all came Clifford, in a black suit this time, driving his little farm tractor, that pulled a big wagon which was loaded and overloaded with darkies, little and big, who sang rollicking choruses, and cheered at the top of their voices. The black section presented a strong contrast to its white predecessor. It represented power, and energy, and movement forward more vividly than even the white division had shown it. This was Peter's hour of triumph, for after some difficulty in halting the parade, the megaphone man and Dr. McAnder paused beside the black Percheron and the announcement was made:

"First year honors are awarded to Peter

Todd for his work in the department of the college devoted to draft horse study. Read all about this work in to-morrow's papers."

Other announcements were made for other departments of work, but were not heard very plainly because of the noise and confusion, which was growing tremendous. Some of the more thoughtful of the people began to be somewhat alarmed at the rising din and disorder, but few in the crowd had any such thought. It was fun, lively and jolly. There seemed to be no reason for being quiet.

Willis and Shepherd Kline and the boy with the pigs were caught in a corner when the black section came in. They had no fear, though, and rather liked the excitement and the life of the ring. In a short time, however, they began to wish they were out of it, for it became harder and harder to take care of their charges. The pigs forgot their taste for peanuts and no longer would follow their master. The lambs, too, began to be frightened, and even the leader had to be driven slowly along with the others by Willis and Shepherd Kline, who had come to the rescue of his pets.

Three of the stallions were growing more and more restive under the unusual conditions of bright lights, shouting, singing people, blaring band, and the excitement of other horses present. The little tractor, however, was the final cause of the most serious trouble. That is, the tractor and the little white pigs did the trick together.

It was quite a hard matter for Clifford to keep the tractor moving around the arena, and to run it slowly enough to keep his place in the parade. He was obliged to stop several times, and to "race" his motor, and all these proceedings were fairly noisy. A cloud of exhaust gas also floated over the arena and especially over the stallions, who were prancing, neighing, snapping at each other when closest together, and giving their keepers more trouble than they had ever experienced before.

Just as they were snorting and beginning to plunge beyond control the two little white pigs bolted and entirely forgot that they had ever followed anybody in a white suit with peanuts in his pockets. Right across the ring they ran, "woofing" and squealing,

under the feet of the three now terrified stallions. That was the last of order in the black section. No man, nor half a dozen men, can hold a frightened horse when it really wants to bolt; and it was evident that two of the unruly horses did want to bolt. Those two white, bouncing little creatures coming, as it seemed, right out of the gas vapor, were too much. The stallions reared, kicked out at the little pigs, and plunged back across the ring.

"Look out, Willis!" shouted Shepherd Kline.

But Willis could not leave his sheep in the track of the black runaways. Springing to a small alley gate near him, he unhooked it and had all but one of the frightened Cheviots turned into it before the great stallions reached that side of the ring. All but one—and that one was the leader. Willis loved that lamb, and could not, would not, see it hurt. Springing after his pet, he seized it in his arms just as the black stallion struck him down. There was a cry of horror from the men, and women covered their eyes. An accident, nobody knew how terrible, had spoiled

what was to be the greatest exposition that the college had ever held. The red section and the green section each had a poor reception; for with two of the boys hurt, the people cared little for any more parading that night.

When Willis opened his eyes in the hospital the next morning his wonder was great. Where was he? What had happened? He did remember some great shock, but ——! A spasm of pain shot through his right leg and up his back. His head swam with dizziness. Then he remembered. He closed his eyes and did not try to move again. Poor Willis!

The nurse put her hands upon his forehead and soothed his pain. When he opened his eyes again he turned toward another bed in the ward and noticed a boy with his head swathed in bandages.

“Clifford!”

The other boy, who was indeed Clifford, nodded his head and winked his well eye comically.

Then the nurse explained how Clifford had probably saved Willis from being trampled to death. Though the stallion had cruelly

bruised Willis and struck him on the shoulder with his hoof, Clifford had jumped from the tractor in time to turn the horse a trifle, although being himself struck on the head in the bargain. Clifford was not very badly hurt, being merely stunned and bruised.

“How about my lamb?” asked Willis.

“It was never touched!” declared the sympathetic nurse.

CHAPTER XXIV

THE CLOSE OF THE TERM

SHORTLY after the exposition came the examinations. For two weeks, a certain room at Mrs. Miggles' was undisturbed by unseemly revelry; instead, the midnight oil was burned in earnest as Clifford, Peter, and Willis studied as they had not studied before that year, Clifford and Willis having quite recovered from the accident at the stock pavilion. All three had been conscientious in their class work and were consequently in no danger of failing in any of their studies. It was merely an inherent and instinctive dread of examinations that lashed them to this final spurt, so as to be prepared for any question, no matter how trivial and unimportant.

What a glimpse into the latent power and ability of the average boy these finals give! There is a concentration of thought and a long, sustained industry, which, if applied steadily during the entire school term, would

shorten school life nearly half. If only our teachers were not so eager to teach us a smattering of unrelated facts rather than how to work and concentrate. The boy who is permitted to idle and fritter away his time in school will very likely when, as a man, he takes up life's business burdens, apply himself half heartedly to them. Genius has truly been defined as nothing more than the ability to work hard and steadily.

Besides "boning" for the examinations, there were laboratory exercises to be completed and final entries made in laboratory note-books. The work in the Short Course consisted partly of lectures in the class room and partly of experiments and practical work in the laboratories. Clifford had neglected to write his special report on the alfalfa experiment, rightly judging he would find time after the game and exposition. Peter and Willis had become much interested in this experiment.

"How did that alfalfa do in the box where you gave no special treatment, but merely used the soil just as it came from the field?" asked Willis, who had been reading up on

alfalfa, now that he was preparing to go home and spend a summer on his father's farm.

"Not very well. The plants were quite yellow and not very strong."

"Why, wasn't the soil rich enough?" this from Peter.

"Yes and no. The soil would have been rich enough had there been any nitrogen-forming bacteria present."

All three had become accustomed to the use of these technical and unfamiliar words, so Clifford's explanation was readily understood by his roommates.

"You see box 5, to which only soil taken from an old alfalfa field was added, with a little ground limestone, produced plants that were strong, green, and thrifty."

"Why that difference?" demanded Willis.
"Limestone has no elements of fertility."

"The soil from the old alfalfa field contained those tiny bacteria which attach themselves to the roots of the alfalfa plant and draw nitrogen directly from the air to be manufactured in the roots into nitrates, an easily available plant food. These bacteria cannot grow in sour soil. As limestone, finely

crushed, is a soil sweetener, its application provides favorable conditions for these bacteria."

"You're doing finely," mimicked Peter. "You'll be a college professor yet, if you're not careful."

"In other words," remarked Willis, ignoring Peter's gibe, "if a piece of land is sweet and has been sprinkled with soil from an old alfalfa field, it will grow alfalfa nicely even if it hasn't been manured."

"Yes, if the field is well drained and not too foul with weeds."

"The man on father's farm has tried for three years to get a stand of alfalfa," informed Willis, "but he has given it up as a bad job. I believe I could tell him now how to go about it."

"Why don't you?" asked Peter.

"It wouldn't do any good. He's one of those old-fashioned farmers who hasn't had a new idea in twenty years. He tried the alfalfa only because father made him. He couldn't understand all this talk about bacteria and liming and nitrates. When a plant doesn't grow on manured land, he thinks it is the fault of the plant, and not the soil. He

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tried alfalfa on a wet bottom each time, never realizing that while alsike clover thrived well enough, alfalfa couldn't."

"Some kinds of 'book larnin' do pay," laughed Clifford.

There was a knock at the door.

"Present," called the ever ready Peter.

Professors Pumphrey and Creighton entered.

"How do you do, boys?" they greeted cheerily, shaking hands all around and dropping into the chairs hastily thrust into position. As there were only three chairs in the room Clifford and Peter utilized the bed. "Been having a debate?"

Willis laughed.

"Cliff, here, was just telling us how to grow alfalfa."

"And gold dollars?" teased Professor Creighton.

Clifford had ceased to be sensitive on the subject of his lost money, so he rejoined quickly :

"If a good crop of alfalfa isn't gold dollars, I'd like to know what is!"

"You are right, my boy!" declared Professor Pumphrey, emphatically. "Alfalfa and

corn and live stock : there you have the foundation trinity for golden wealth from our American farms."

"I suppose all three of you boys are coming back next winter?" inquired Professor Creighton, to change the subject.

"Wouldn't miss it for worlds," declared Peter. "Nor I," added Willis.

Clifford remained significantly silent.

"We've been counting on you, Cliff," urged Professor Pumphrey, affectionately. "Cannot you arrange it somehow?"

"I don't know. I won't have a cent when I get home next week, and there will be no hundred dollar prize purse to fall back upon this time."

Clifford tried to speak bravely, but it was very evident that the subject was a tender one.

"I think we understand, Clifford," added Professor Creighton, sympathetically. "That's why we called on you to-night. You tell him, Pumphrey."

"The fact is, that Creighton and I are in charge of a so-called student loan fund. A wealthy Chicago packer lends several thousand dollars each year to deserving Short

Course students who are financially unable to return the second year. This money is loaned for a term of two years, and does not draw interest. Now, we've been watching your work here, and have decided to offer you the loan of one hundred and fifty dollars to defray your school expenses next winter. This will make it unnecessary for you to do any extra work, but will enable you to spend your time to better advantage in the class room and laboratory."

"And in the gym!" from Peter.

"I hope so," returned Professor Pumphrey, quickly. "There is nothing like a thorough workout in the gymnasium every day to keep earnest young students like Clifford and you two fellows in the best of mental and physical condition. I hope you will accept this loan, Clifford."

Clifford hesitated. He was deeply grateful to the kind-hearted instructors, but he had a horror of debt.

"We want you back," urged Professor Creighton. "The seed growers' association needs you another year."

"You're a big ninny if you don't!" blurted

Peter, bluntly. "Do you suppose that Willis and I will want to go and scout around for another roommate? I guess not!"

"Please, Cliff!" Willis had become very fond of the practical-minded Clifford, and would have missed him more keenly than even Peter.

"I accept," decided Clifford. "But it will not be an easy matter to repay this loan in the time limit."

"Good," declared Professor Pumphrey. "I think you are doing the right thing by yourself. And I'll miss my guess if you don't come back next fall with some money in your jeans. The boys tell me that Bill Jessup is a shark in making the hens lay. Eggs are a nickel apiece now, you know."

"They might as well be a dollar for all we know," complained Peter. "We haven't had any at Ye Cardinal Cat since before Christmas."

"I'd rather have none at all than storage eggs," announced Clifford.

"Now that this matter is settled," began Professor Creighton, deftly changing the subject, "I have a second proposition to make."

"Going to offer me a thousand to stay at home," interrupted the flippant Peter.

"No," and Creighton laughed in spite of himself. "It's a cabbage proposition."

"That lets me out of it, all right," admitted Peter, with affected relief. "Willis had better worry about his head, though."

"For five years," resumed Creighton, paying no attention to Peter, "the college has been conducting some secret investigations on the cabbage plant. As you fellows no doubt know, a few years ago this was the greatest cabbage state in the Union. But gradually an insidious disease or rot began to ruin the fields, and farmers were forced to plant other and less uncertain crops. The scientists were unable to find a cure for this cabbage rot, so we at the college began to select plants from the infested fields that had successfully resisted the disease. The seed from these plants was replanted on the same fields, and again the plants that were hardy enough to escape destruction were selected. In five years we succeeded in achieving a variety of cabbage that very largely resists rot. We are in hopes that this state may once more become cabbage queen.

"We have kept this experiment secret, because we did not want the seed houses to commercialize our work. This year the college has too much of the disease resistant cabbage seed to be used on its farms. We do not like to distribute this seed generally yet, because of the danger of its being exploited by the seed houses. We have decided upon a selected list of farmers we can trust, and will offer each of them an ounce of this seed, under certain restrictions.

"Recipients of the seed are requested to plant their cabbage on a good plot of ground and grow it carefully. This fall they are to dig the cabbage out by the roots, and store it in a frost-proof cellar. Next year the best of this cabbage is to be replanted for seed, and the seed carefully harvested and turned over to the college. The college will then fix upon a fair price for the seed and advertise it for sale. No farmer in the state will be permitted to buy more than one pound of this seed, and no one from other states more than an ounce. The money will be divided among the growers.

"If you boys will agree to the rules I have outlined, we will give each one of you one

ounce of that certified, rot resisting cabbage seed."

"I'd like to accept, very much," declared Willis, "but I know it would be useless to take the matter up with father. He hates cabbage."

"Same here," declared Peter. "Dad can't see any money in anything but corn, clover, and oats."

"A very fine combination, by the way," approved Professor Pumphrey. "Cliff, it is evidently up to you."

"My prize corn acre would be just a dandy field for cabbage, but I'd have to look up another alfalfa field."

"You can grow alfalfa almost anywhere except in a swamp," urged Creighton. "Better try an ounce of that seed. You will be able to repay your loan, when it is due, with the proceeds of certified cabbage seed."

That decided Clifford.

"I'll do it," he declared. "I'm sure that I can rent storage room of Mr. Bolton."

"I'm sure, too, for Mr. Bolton has also agreed to plant some of that cabbage for us."

CHAPTER XXV

CLIFFORD STUDIES A MARSH

CLIFFORD went back to the farm with his brain just seething with plans. Most of these, however, would have to wait execution, for spring planting occupied his most immediate time. It was the last week in March before he left Jefferson and school life.

Cabbages being a very hardy plant, permitted early planting, so Clifford had mailed the ounce of certified cabbage seed given him by Professor Creighton to Bill Jessup with instructions to plant it at once in pots or boxes in the house. Clifford found the plants well started when he arrived at the farm, and they were now ready for transplanting.

Clifford and Bill were greatly handicapped for lack of horses. The summer before they had managed to rent an old plug from the Corinth liveryman, but this spring no horses were to be had. Clifford had no money with which to buy a horse outright. Old Gray

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was a strong and willing servant, but naturally not equal to the task of plowing. In desperation, Clifford applied to Mr. Bolton, although he hated to presume upon his kindly neighbor too much.

To his surprise, Mr. Bolton had an idle horse.

"I bought one of those tractors you managed so well at the college," he explained. "Lem is so tickled at its fine work he hardly takes time to sleep. Yesterday he fixed up a search-light and ran the blooming thing all night. Finished disking that forty back of the barn, too. That's why I have a horse this time of the year badly in need of exercise."

"I'll be very glad to pay you well for the rent of that horse for a few weeks," exclaimed Clifford.

Mr. Bolton would have been glad to loan the horse free of charge, but he appreciated Clifford's spirit of independence.

"All right. Under the circumstances, a dollar a day will about even the obligation. You can keep him at these terms as long as this tractor of mine doesn't get balky."

Clifford was now able to rush his own farm work. His operations were quite simple and

necessarily limited in scope. The farm consisted of only about forty acres of tillable land; another forty was a marsh; and finally there was a wooden knoll of about twenty acres that would provide pasture for a limited amount of live stock. It was a decidedly poor farm from many aspects.

Clifford planned to sow twenty acres of oats. Through Professor Creighton and the college he had arranged for forty bushels of the new Pedigreed No. 1 variety that had just been perfected and was now ready for distribution for the first time. Clifford would be permitted to return an equal amount of well cleaned oats from his crop in the fall in payment for the seed.

Barn-yard manure was sadly needed upon all of the fields of the Davison farm, but as there was not enough to go round, Clifford had to plan very carefully in order to make the best use of what there was. He decided to put the oats upon last year's corn field, without manuring.

"I will tell you why I think this is best," Clifford explained to Bill. "Corn, because of the deep plowing and thorough cultivation

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it receives, breaks up the soil and releases a lot of fertility elements for the succeeding crops. Thus corn, because of this extra working of the ground it necessitates, is almost as good as manure for the land when you wish to follow corn with small grains."

Clifford also arranged for four hundred pounds of a grass seed mixture, consisting largely of red clover, with a little alsike clover and timothy. He also included a small percentage of alfalfa seed.

"What did you do that for?" asked Bill, in surprise.

"I want to get the soil accustomed to alfalfa. You see, it takes some years before the nitrogen-forming bacteria get accustomed to a strange soil where alfalfa has never been grown. If we keep a scattering of alfalfa plants in a field, these bacteria will gradually develop, and so permeate the soil that it will be ready for an exclusive alfalfa plot in course of time. I aim to get the whole farm in such shape that every field will grow alfalfa."

Bill thought this over for a minute.

"Wouldn't it be better to test the soil, and if found to be acid, to put on a little of that

marl from Bolton's bed? That ought to give these nitrogen bugs, or whatever you call them, a much better chance."

"You are right," agreed Clifford.

As about the last week in April was the latest that oats could be successfully sown, Clifford and Bill bestirred themselves. Bill had plowed about ten acres in the fall, so he immediately began to plow the remaining ten. The whole field was then harrowed twice, and as time pressed, Clifford borrowed an old drill from a neighbor and rushed his improved seed oats into the ground. Bill drove the drill, while Clifford followed on foot with the grass seed. Not wishing to borrow too freely from his neighbors, he had decided to put the grass seed into the ground by the most primitive method known, a method which his Uncle Barney had taught him.

He took half of an old grain bag and sewed a strap over the opening in such a manner that he could sling the bag over his shoulder. Into this bag he put as much grass seed as he could conveniently carry. Then, following the drill, he carefully scattered the seed by

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hand, trying to distribute it as evenly as possible. A little carelessness might mean big patches with no seed at all, and others with too much seed.

The oats and grass seeded, the field was gone over finally with a smoothing harrow.

Luck was with Clifford, for hardly had Bill made the last round with the harrow, when an April drizzle set in and thoroughly wet the field. For two days Clifford and Bill were confined to the house, during which time they shelled the seed corn from the prize acre—Bill had already tested it for germination—and got the cabbage plants ready for the ground.

Bright sunshine followed the drizzle, and twelve hours afterward Bill was able to plow the prize acre, which had previously been covered heavily with manure, and harrowed it down to a fine degree of tilth.

It took both of them two days of the hardest kind of work on hands and knees to set the cabbage plants, but the task was accomplished at last.

Clifford and Bill realized what an aching back meant. They were permitted no respite, however. The residue of the barn-yard manure

was hauled upon the remaining twenty acres, and by spreading quite thinly, was made to do, although twice the amount of manure would have been about right. Eighteen of these acres were intended for corn, Clifford having reserved two acres topping a knoll for alfalfa. This knoll had a gravel subsoil and was only slightly acid. A few wagon loads of marl from Bolton's field and five hundred pounds of a phosphoric acid fertilizer he had bought put these two acres in fair shape for fertility and soil sweetness.

"We've simply got to keep more cows," declared Clifford to Bill. "Otherwise we shall never be able to bring up the fertility of the whole farm."

The corn was planted the last week in May, which was late enough, and the alfalfa was seeded the first week in June.

Meanwhile, Clifford had been studying his marsh. He tramped over every corner of it, and with a soil auger he dug deeply in order to determine the kind of soil. Most of it was rich and black, while great patches of it had that brownish tinge that had arrested Bill's attention the fall before. In no place was there

a hard subsoil, but the good ground extended everywhere from two to four feet before bad places were reached.

Mr. Bolton accompanied him to the marsh one day, and together they studied its possibilities.

"If you can get this marsh drained," decided Mr. Bolton, "it will be the best field on your farm; more than that, it will be worth as much as the other sixty acres."

"I don't suppose the owners would drain it for me?" asked Clifford.

"I'm quite sure they wouldn't. I'm afraid that all you can get out of your marsh is a little wild hay for the present. If you ever buy the farm, by all means drain it."

"I do intend to buy this farm some time!" affirmed Clifford. "But that time is a long way off. It takes money to buy farms nowadays."

"You might be able to buy on land contract."

"What is a land contract?"

"When you buy on land contract, you pay down only a small sum, like a thousand or two dollars. Then you pay a matter of three

to five hundred dollars a year until about half of the farm has been paid for ; often less than half. You will then be given title or deed and must assume a mortgage for the balance."

"That sounds like a very practical plan for me," admitted Clifford.

The manner in which Clifford and Bill toiled that summer put them thoroughly into the good graces of the neighborhood. Early and late they were busy at some task ; and no weeds of any consequence could be detected in either the cabbage or the corn field.

The corn crop did only fairly well because the soil was really too poor for best results. The oats, however, due to a combination of good seed and good seed bed, thrived amazingly and at threshing time yielded almost as well as Mr. Bolton's. Mr. Bolton had far richer soil but he did not use the pedigreed seed, having learned of that too late for this season.

The alfalfa grew, but not very vigorously, and the curious neighbors who came to inspect this newfangled plant left with dubious shakes of their wise old heads. Clifford inferred that the trouble lay in a slow formation

of the nitrogen bacteria; he hoped that the next year, when the soil would be full of these bacteria, the alfalfa would come out all right.

With no prize acre of corn to occupy his attention this fall, Clifford had time to work out for a few months. For five weeks Stummer, the kind-hearted German who had given him employment two years ago, paid him ten dollars a week to run the big traction engine. Stummer had sold his old steam engine and had invested in a powerful gasoline tractor that was better in every respect.

Thus with a little money in his pocket, and with the knowledge that he had a full corn crib, a bursting oat bin, a mow filled with wild hay and corn stover, and several hundred head of selected cabbage in Bolton's root cellar, Clifford appeared at Jefferson in high spirits, ready to complete his studies in a blaze of glory.

Peter and Willis arrived true to their promise, and our three friends were once more ensconced in the friendly home of Mrs. Miggles. At Ye Cardinal Cat they found Bud Speers, as irrepressible in spirits as ever, although

carrying himself with the dignity expected of the engineering senior. Wild midnight frolics knew his presence no more. A nicely trimmed, snug little mustache adorned his upper lip, and Peter soon discovered that Speers brooked no "jollying" from anybody regarding that little personal vanity. Bob, too, was back :

"To see that Bud gets into no trouble," he laughingly explained.

Clifford, following Professor Pumphrey's advice, did not try to do any extra work for pay this term, but confined himself to his studies. He joined the basket-ball squad to find an outlet for his youthful physical energies and to prove to the school that his playing of the previous year was not a "fluke." He had the satisfaction of helping beat the Commercials by a score of 33 to 19.

In this wise the winter sped on, with an occasional boyish prank to keep the spirits young. With two such jokesters about as Peter and Bob, Clifford and Willis took outbursts of animal spirits as a matter of course.

All too soon the finals were upon them, and then commencement with its diplomas.

CHAPTER XXVI

SURPRISES

PETER and Willis were packing Clifford's trunk for him. It is true that Clifford had completed packing earlier in the day, and had left for a few moments on an errand for Peter, but the judgment of Peter and Willis was negative.

"I don't see how Clifford ever came to forget this!" sighed Peter, as he put two heavy bricks in the bottom of the trunk.

"Nor this," added Willis, passing a small bottle to Peter, who deftly hid it among the folds of an old sweater.

Then, while Peter sat on the lid of the modest little trunk, Willis strapped it down again.

"Clifford will be pleased at our thoughtfulness," chuckled Peter, surveying the trunk with satisfaction. "Hope he won't think of opening it till he gets home."

Willis had been gazing at the battered old alarm clock that graced Clifford's table.

"Cliff will put that ticker into his suit case to-morrow. We mustn't forget to set it so that it will go off on the train."

"Good idea," approved Peter. "He'll never think to examine it. Cliff is so confiding, it's a shame to forget these little attentions."

Firm footsteps in the hallway caused the two conspirators to change the subject precipitately.

Clifford entered whistling "Home, Sweet Home."

"Don't!" protested Peter. "I'm homesick enough now."

"I'm glad it's all over but the shouting, myself," admitted Willis. "I enjoyed myself here, but there's nothing like getting back home to the folks."

"I'm not especially strong on folks, myself," admitted Clifford in a tone which was meant to be cheerful but which betrayed a little catch. "However, I have Bill Jessup and the farm to go back to, and I'm going to be ever so happy."

Peter spoke up quickly.

"You two have something to crow about," he declared. "You've got a farm, Cliff, and can do as you please; and Willis, here, has just heard from his dad that he has the pater's permission to manage the farm, rather than to bury himself in the hardware store."

This was news to Clifford.

"Good for you, Willis," he congratulated. "I'm sure you'll be just a dandy farmer. Look at the start you're given."

"I'm not so sure about that start part," demurred Willis. "You've had worlds of experience, and I'm a pretty green sort of a fellow."

"Nonsense," declared Clifford. "You've got common sense, which is half the battle."

"Dad wants me to work a year or two upon some specialized live stock farm," informed Peter. "Says that to knock around away from home for a while will do me good. I'd rather pitch in at home right now and show the folks I didn't waste my time here."

"Perhaps your father is right," declared Clifford. "A fellow doesn't learn new things at home."

"I think so too," agreed Willis. "That's

what I'd do if father didn't need me on the farm at once. His last manager turned out dishonest, and father wants to change at once."

The three young fellows were full of big ideas they had literally "grabbed" off the Short Course during the past two years. Now that the end of the second term had come, they were allowing their hopes and ambitions to have full sway. They had enjoyed their school life immensely, but like all young men, or boys rather, were eager to forsake the class room, with its seeming waste of valuable years, and begin the battle with the stern world in earnest. The time would come soon enough when they would realize that one can never have too much of the right kind of schooling. Willis and Clifford had definite and weighty problems to meet at once, while Peter was fortunate enough, or unfortunate enough, whichever you please, in being forced to defer his onslaught on the largest business problems. The elder Todd knew Peter pretty well, knew that his son needed a little more ripening and disciplining before he would be ready to become his father's right bower.

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"Ting-ling-g-g!" sang the telephone, breaking the revery of the boys. Clifford, being nearest to the 'phone, answered.

"Yes, this is Davison. Oh, is that you, Professor Pumphrey? Certainly, I'll be right over."

"I'm just going over to room nine for a few minutes. Professor Pumphrey wants me. Wonder what's brewing."

"All right! But say, Cliff, put on your coat. That blazer of yours has a tear in the back that looks as if you had been on a tear yourself."

"Guess I will." And Clifford slipped on the coat and ran over to the big building and up to room nine. It was just half-past eight.

As he reached the door he stopped short, thinking he had made a mistake. If not, then Professor Pumphrey surely had, for from the room he heard the old strain:

"For he is a jolly good fellow,
As everybody knows."

Before he had time to retreat, the door swung in and half a dozen hearty hands pulled him into the room, where he stood

the most surprised fellow in Jefferson just at this time.

Parading around in room nine were about forty of the boys, and others. Professors Pumphrey, Creighton, Hoyt, and Dean Hunter, Nettie Bolton, her father and mother, and others whose friendship he had prized highest in the world ; all were seen through a sort of hazy light, as if his eyes had grown dim.

This finally cleared, and they sang again :

“ For he’s a jolly good fellow,
For he’s a jolly good fellow,
For he is a jolly good fellow,
As everybody knows.”

Clifford sprang at Professor Pumphrey and beat him about the shoulders, crying : “ You old fraud ! ” Then he grasped Nettie by the hands, whirled her around until she begged him to stop, and did not rest until he had shaken the hand of every one in the room and had given half the boys some thumps that made them jump.

After an hour of visiting, Professor Pumphrey drew back a curtain, and all gave a lusty cheer as a supper table was shown ready set for healthy young appetites.

Nettie was seated between Clifford and Peter, who had come in soon after his roommate. She chattered like a happy little sparrow, but Clifford had grown rather silent.

"Why did they do this?" he asked her, in a whisper.

"Oh, just to kind of coax you to be a better boy and not keep on planting money around in the alfalfa boxes in the plant laboratory, I suppose."

Clifford laughed.

"Hardly, you little tease. Yet I can't understand why they should honor me in this manner."

"Well," replied Nettie, in a whisper, "I'll give you an idea, stupid. It's not on account of any one thing. It's not because you lost your temper sometimes. It's not because you made a lot of mistakes. And it's not because you let Prudence Prunelle into the ball-room!"

Nettie certainly was provoking, but Clifford rather liked her that way. Nettie continued:

"It is only because, taken all together, as Professor Pumphrey is going to tell us after

supper, Clifford Davison has been a pretty good sort of a fellow to have in the college. You'll see if that isn't what he is going to say.

"He may mention a few subjects like the Modern Milkmaid, the Tractable Tractor, the Pavilion Parade Performance, and the State Seed Society; but there will, of course, be nothing really personal in what he has to say. These folks here merely like you in the same way that Old Yankee Nancy liked his bob-tailed, crumple-horned cow."

"How was that?"

"When they asked him to tell why he liked the old cow so well, he said: 'Wa'al, I do like that caow! I like that old caow fer what she does an' not fer what she looks like.'"

"Fine compliment that is for my looks! Well, anyway, this is great, and you can tease and make all the fun of me that you want to. I'm going back to Corinth with you to-morrow, and then I'll make you pay for all your fine tricks. You'll see!"

"Never mind, Cliff, I was just jollying. Professor Pumphrey has told us all about

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how well you have worked. So we know. Now listen! He is going to say something."

The professor had risen and was playing a little tune upon his glass with his fork. Then he did what Nettie had predicted he would do—told a good story of how a certain boy had come to the college on a quart or two of good seed corn, and had made good with the new milker and the new tractor, besides suggesting the organization of a state seed growers' association.

Clifford was uneasy as the talk went on, and was curious as to the real reason for it all. It was simply impossible to him, modest as he was, that there had been any part of his own work that could really be called unusual. But the professor kept right on talking, so Nettie gave Clifford's arm a pinch to relieve his embarrassment.

"And so," continued Professor Pumphrey, "I was more than glad to receive this letter yesterday from the Modern Milker Company. It shows us that even the large manufacturing companies are quick to notice and to reward good work. The letter explains itself and also explains the why of this jolly little party

to-night, though the students here are always noticed by us, with many an appraising eye, even when nothing is said to them about their own success or failure."

Everybody thought him most terribly slow and needlessly deliberate in opening the letter which he drew from his pocket. But finally he began to read :

"DEAR PROFESSOR PUMPHREY :

"We are glad to know that our milker is giving you satisfactory service after the unfortunate little accident to the pressure indicator was so cleverly overcome by young Davison, the Short Course student you wrote us about. As a rule we discourage any attempts at tinkering our machines, preferring that patrons send to us direct for any needed help in their operation, but this incident turned out so fortunately that we are grateful to this young man for doing as he did. The success of the milker at the college has already brought us many buyers, and to show you part of our honest appreciation, we have enclosed a check for one hundred dollars.

"Trusting that this check will be accepted by Davison, we are,

"Sincerely yours,

"THE MODERN MILKER COMPANY."

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Now Clifford did understand the little party. His eyes shone as brightly as Nettie's when hands, a dozen at a time, amid the confusion of a score of friendly voices, again surrounded him, and congratulations rang around.

Clifford regarded Professor Pumphrey with suspicion.

"I believe you told the Modern Milker Company more than their letter indicates. How can I ever thank you enough?"

"By taking this check, putting the money into your farm, and, by applying the principles you have been taught here, make it grow to two hundred."

"I shall try," agreed Clifford, modestly.

The party broke up soon after that.

The Boltons went back to Corinth station with Clifford the next day, after the many "good-byes" and "good lucks" had been said. Peter and Willis promised faithfully to write often, while Clifford accepted Willis' invitation to spend the following Christmas holiday with him.

On the train, Clifford found a seat by Nettie, after throwing his suit case upon the "basket" overhead. They chatted gaily for

about an hour, when a sudden subdued "rattle" overhead startled and then amused the passengers crowding the coach.

"My alarm clock!" exclaimed Clifford, instantly understanding the nature of the commotion. He remembered having seen Peter with the clock after breakfast. He also remembered that the clock possessed one of those intermittent alarms which would continue for fifteen minutes if not suppressed. So he pulled the suit case down.

Nettie laughed with glee. No sooner was the cover of the suit case raised, than an empty bottle rolled out and dropped upon the seat, almost into Nettie's lap.

Mr. Bolton, whose memory led back to boyish pranks of his own, chuckled with amusement at Clifford's crimsoning face. Nettie, with quick understanding of Clifford's sensitive nature, changed her laughter to a word of sympathy.

"Those horrid boys!" she whispered. "Never mind, the joke's a harmless one."

And so the Short Course term ended. Many new friends had been found. Many new ideas on profitable farming had been

gained. And now Clifford stood on the threshold of real farming. He realized more and more how much the Boltons had helped to get him started and keep him going. Their genuine interest and sympathy were just what he had needed.

Bill met them at the station and had a good report of affairs at the farm.

"Got a hundred little chicks already. They'll need the old barn all to themselves next winter. We'll need a new one for the stock."

"The stock? What stock?"

"Say, I wrote you about the new calf, didn't I?"

"Yes, of course."

"Well, I made a dicker with a feller down at the creamery and got hold of two more nice little heifers. You see, I been savin' egg money some time now, and had the cash to pay. They're daisies!"

"But what'll we do for room next fall?"

Just then they came to the top of a rise from where the Davison farm could be seen, and Clifford looked and looked, then stared with bulging eyes.

"Bill! There's a new barn!"

"Somebody's been telling the truth," admitted Bill, grinning.

Mr. Bolton did not wait longer, but explained that he had taken the option of the purchase of the old farm, which Clifford was to take over when he was twenty-one years old, if he wished, at the present low price.

"I do not need any more land," he explained, "but this was offered so cheap that no one can lose. Instead, there is almost certain to be a handsome profit made, for land is steadily rising in value here. That barn, built over the basement of the old burned one, cost only \$600, and I am safe in saying the farm is worth \$1,000 more because it is there.

"Bill is your right hand man, and he and I have been talking all these things over while you were away. I think you had better raise his pay, for I'm sure your returns will be better this year. By the way, Bill is also dickering for another horse. You'll need one, you know."

They reached the Davison gate, and Clifford got out to go in and look around, while Bill took the Boltons home.

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